

# **ZEON**

**Zeon Group Integrated Report 2022**

# Our Philosophy

## Corporate Philosophy = Mission

### Contributing to the preservation of the Earth and the prosperity of the human race

In keeping with its name, derived from the Greek words “geo” (Earth) and “eon” (eternity), Zeon will contribute to a “Sustainable Earth” and “Safe and Comfortable Life for People” by providing original technologies, products, and services.

## Sustainability Policy\*

- We aspire to realize a “Sustainable Earth” and “Safe and Comfortable Life”
- We will firmly maintain fairness and integrity in our activities to be a trustworthy company
- Each of us will think and act proactively for a better future

Based on our corporate philosophy of “contributing to the preservation of the Earth and the prosperity of the human race”, sustainability at Zeon means achieving sustainable growth together with society. To achieve this, we will provide products and services that are valuable for solving global and social issues, build trust with our stakeholders through fairness and integrity and have each one of us act proactively thinking how to create a better future for the society and ourselves.



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## Vision for 2030

### A company that lives up to societal expectations and the aspirations of employees

## SDGs targeted by Zeon



## Core Values

Let's try first    Let's connect    Let's polish up

### \* Zeon Corporation Establishes Sustainability Policy

Zeon Corporation established a new Sustainability Policy, effective July 1, 2022, following a review of the Zeon CSR Policy, which sets out the fundamental approach to its corporate activities. The Zeon Group will strive to achieve its Vision for 2030 under the Medium-Term Business Plan by advancing beyond its past CSR management and embracing the broader perspective of sustainability management. We will continue to work toward realizing a sustainable society by ensuring that all employees consider sustainability in every action they take and by engaging in dialogue and collaboration with our stakeholders.



#### Editorial policy

In compiling the Zeon Integrated Report 2022, we referenced the Guidance for Collaborative Value Creation issued by Japan's Ministry of Economy, Trade and Industry (METI), and also referenced the many suggestions that we had received from customers. Plans, forecasts, etc. that are disclosed in this report have been drawn up based on the currently available information, and contain some degree of risk and uncertainty. Actual performance may vary from these plans, forecasts, etc. due to a variety of factors.

#### Reporting period

April 2021 to March 2022  
(includes some information after April 2022)

#### Reporting scope

Zeon Corporation and Zeon Group companies inside and outside Japan. Some data covers only Zeon Corporation.

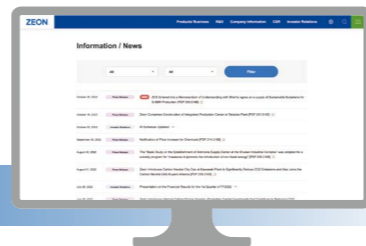
#### Zeon's information disclosure

Basic information on Zeon Corporation and Zeon Group is available on the Company Information section of the corporate website. The Integrated Report (this report) presents a wide range of information relating to Zeon's business activities and ESG. The Sustainability Report (available only in PDF format, and due to be issued in late 2022) contains detailed information about CSR-related initiatives. The Site Reports (available only in PDF format) outline some of the initiatives adopted by the Zeon Group's individual plants and group companies. More information about Zeon's management and operations is available on the Investor Relations section of the corporate website and in the Fact Book.

<https://www.zeon.co.jp/en/>

# 2021-2022 Topics

Zeon issued the following press releases between April 2021 and June 2022.



List of press releases

Press releases: <https://www.zeon.co.jp/en/news/>

\* The dates given are the dates of the related press releases.  
\* Click on the symbol to access the PDF for that press release.

Release date	Announcement
April 13, 2021	<b>R&amp;D</b> In collaboration with RIKEN and Yokohama Rubber, Zeon develops new technology for producing biomass-derived butadiene
June 4, 2021	<b>Business</b> Zeon joins the Battery Association for Supply Chain (BASC)
June 16, 2021 <b>1</b>	<b>New Products</b> Zeon to start production of high thermal interface materials (TIM)
August 24, 2021	<b>Awards</b> A researcher from Zeon's Analytical Technology Laboratory receives a Fellowship Award from the Society of Polymer Science, Japan (SPSJ)
August 30, 2021 <b>2</b>	<b>R&amp;D</b> Zeon develops technology that is able to predict the physical properties of a material using images of the material's structure generated using AI
September 3, 2021 <b>3</b>	<b>Business</b> Zeon starts full-scale commercial production of acrylic rubber in Thailand
October 1, 2021	<b>HR</b> Zeon issues a Declaration for Health and Productivity Management and Code of Conduct for Well-being
October 1, 2021	<b>PR</b> Zeon launches its new "Door" corporate advertising campaign
October 28, 2021	<b>Business</b> Zeon decides to establish an additional production line, the largest width of its kind in the world, for manufacturing optical film for use in large-screen TVs
December 14, 2021	<b>IP</b> Zeon begins using a Technology Trends Predictive Analysis System that utilizes AI effectively
January 11, 2022	<b>R&amp;D</b> Zeon establishes proprietary technology for recycling Cyclo Olefin Polymers
January 25, 2022	<b>R&amp;D</b> Zeon develops technology for controlling the formation of lithium dendrites utilizing sheets made using carbon nanotubes
February 4, 2022	<b>Investment</b> Zeon Corporation reaches agreement for Aurora Microplates acquisition
February 7, 2022	<b>Investment</b> Zeon establishes Zeon Ventures Inc. in the U.S., and begins strategic investment
February 10, 2022 <b>4</b>	<b>Investment</b> Zeon invests in the AOI Fund 1 managed by UTokyo Innovation Platform Co., Ltd.
February 21, 2022	<b>R&amp;D</b> "Development of a manufacturing technology that applies carbon recycling for commodity chemicals used in synthetic rubbers," a joint project between Zeon and Yokohama Rubber, is selected by the NEDO as a Green Innovation Fund Project
February 25, 2022	<b>R&amp;D</b> Zeon's "Development of photonic chips for higher performance, energy-saving non-volatile memories" project is selected by NEDO as a Green Innovation Fund Project
March 24, 2022	<b>Business</b> Zeon decides to increase its production capacity for hydrogenated nitrile rubber
March 28, 2022 <b>5</b>	<b>Investment</b> Zeon becomes the first chemical manufacturer to forge an operations and capital tie-up with QunaSys Inc.
April 13, 2022	<b>Environment</b> Zeon begins energy conversion toward achieving carbon neutrality
April 21, 2022 <b>6</b>	<b>New Products</b> Zeon launches the LNES®SL-03 cultivation-type artificial ornamental plant, which uses solar power to provide health benefits while also contributing to the environment
April 22, 2022	<b>Business</b> Zeon renovates its head office to help realize its Vision for 2030
April 27, 2022	<b>Business</b> Zeon decides to increase its production capacity for lithium-ion rechargeable batteries

**1**

**New Products**

Zeon to start production of high thermal interface materials (TIM)

June 16, 2021

High thermal interface materials (TIMs) are sheet-type material that are used as an interface between heat-generating components, such as ICs, and heat sinks. By comparison with conventional grease-based materials, TIMs provide higher thermal conductivity, increased durability, and improved workability.

Zeon has already begun full-scale volume production of TIMs, and they will be used for many different electronic devices, helping to solve heat problems that derive from the enhancement in the performance of electronic components.



**2**

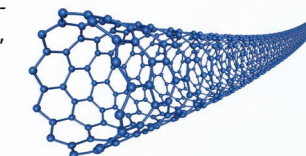
**R&D**

Zeon develops technology that is able to predict the physical properties of a material using images generated using AI

August 30, 2021

Zeon has succeeded in developing technology that can be used to predict the physical properties of materials with complex structures, such as carbon nanotubes.

With this technology, it is now possible, even for materials with complex structures which AI could not have been used in the past, to perform an entire series of experimental processes—from materials selection through to processing and evaluation—using a virtual experimentation process that utilizes high-speed, high-precision computer imaging, which can be expected to enable new material development to be completed even more rapidly.



**3**

**Business**

Zeon starts full-scale commercial production of acrylic rubber in Thailand

September 3, 2021

Zeon Chemicals Asia Co., Ltd. began commercial production of acrylic rubber in Rayong Province, Thailand, in August 2021. Acrylic rubber is a type of specialty rubber that has superior thermal resistance and resistance to oil. It is used as a material for seals, gaskets and hoses in vehicles with internal combustion engines. With demand for rubber with high thermal resistance having increased in recent years, Zeon has strengthened its global supply chain by adding Thailand as a fourth production base for acrylic rubber, alongside Kawasaki and Kurashiki in Japan, and the U.S.



**4**

**Investment**

Zeon invests in the AOI Fund 1 managed by UTokyo Innovation Platform Co., Ltd.

February 10, 2022

The AOI Fund 1 was established to cultivate and provide investment for startups established through open innovation at the University of Tokyo. This fund works actively to promote the building of collaborative partnerships between startups and longer-established companies, aiming to contribute to society through the creation of new businesses. Zeon's investment in the AOI Fund 1 represents the first investment in the fund by a specialist chemical manufacturer.



**5**

**Investment**

Zeon forms an operations and capital tie-up with QunaSys, a company that develops software for quantum computers

March 28, 2022

If quantum computers can be realized, they will offer a level of performance that far exceeds that of today's super-computers, and they can be expected to be very effective at facilitating high-speed materials simulations. In this operations and capital tie-up with QunaSys, the aim is to respond to demand for new materials and help solve social problems by integrating Zeon's materials development infrastructure and know-how with QunaSys's expertise in advanced digital technology.



**6**

**New Products**

Zeon launches LNES®SL-03, the third product to be commercialized through project LNES

April 21, 2022

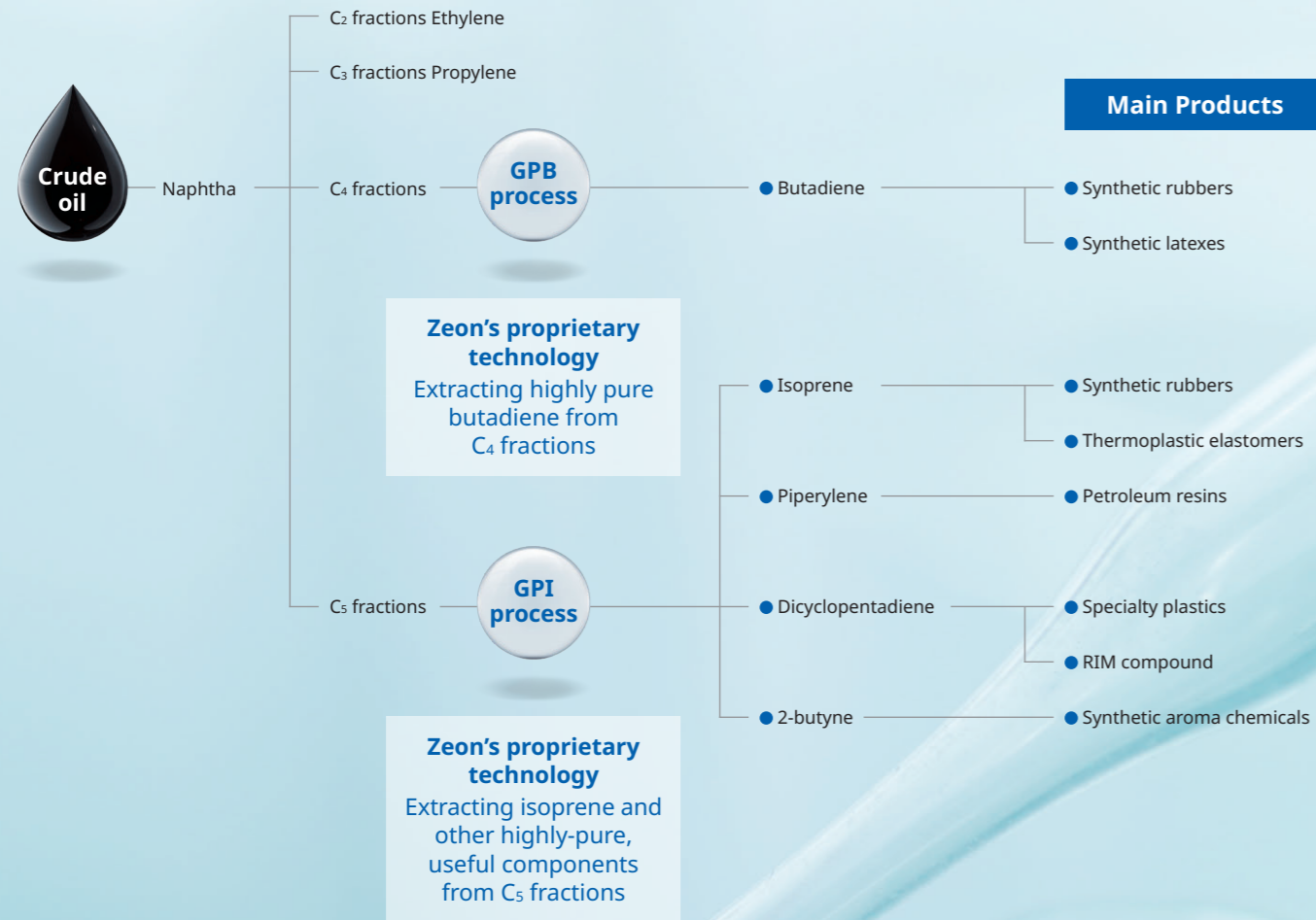
Test sales began for LNES®SL-03, a cultivation-type artificial ornamental plant which has been developed through project LNES, an open innovation project to create new value that was initiated in 2016.

LNES®SL-03 is a futuristic device that uses a SOLAR CARD® ultra-small solar cell which has been made incredibly thin and lightweight through Zeon's carbon nanotube technology. The amount of electric power generated can be visualized using a smartphone app, and the product also has entertainment functions, including being able to cultivate original characters and allowing users to enjoy a virtual sunbathing experience.



# Business Overview

Zeon's main products are created from raw materials such as butadiene and isoprene, which are extracted from the C<sub>4</sub> and C<sub>5</sub> fractions of naphtha using proprietary Zeon technologies. Business segments are divided into the **Elastomers Business**, **Specialty Materials Business**, and **Other Businesses**.



## Elastomers Business

In 1959, Zeon became the first company in Japan to mass-produce synthetic rubbers. Comprising three individual businesses—Synthetic Rubber, Synthetic Latex and Chemicals—the Elastomer Business is a solid core business that underpins Zeon's activities.

### Synthetic rubbers

General-purpose synthetic rubber is used as a raw material for tires. Specialty synthetic rubbers are used for heat-resistant, oil-resistant rubber components that will be in close proximity to an engine.



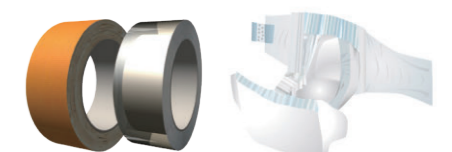
### Synthetic latexes

Synthetic latexes are used for gloves (for sanitary and medical use), cosmetic puffs, etc.



### Chemicals

Petroleum resins and SIS thermoplastic elastomers are used as raw materials for manufacturing adhesives and adhesive tape. Petroleum resins are also used in the paint used for road markings.



## Specialty Material Business

Specialty materials are materials and components with high added value thanks to superior macromolecular design and processing technology.

### Specialty plastics and components

Specialty plastics are used for optical lenses and medical devices. We also process these materials to create optical film that is utilized as a material for displays.



### Polymerized toner

Electro photographic toner for use with printers, fax machines, digital copiers, and multifunction devices



### Specialty chemicals

Synthetic fragrances are used in cosmetic/fragrance products, as well as for food fragrances, etc. We also produce raw materials for pharmaceuticals and agrochemicals, specialty solvents, etc.



### Electronics materials

Coating insulation materials, etching agents and photoresists, etc., for use in semiconductor manufacturing



### Battery (energy) materials

Anode binders, cathode binders and functional layer materials for lithium-ion batteries, etc.



### Medical devices

Gastrointestinal medical equipment (catheters, stents, etc.) and cardiovascular medical equipment (FFR devices, IABP balloon catheters, etc.)

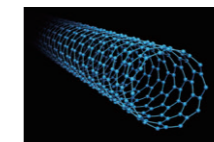


## Other Businesses

Engineering, packaging materials, building materials, deodorants, RIM compounds, single-walled carbon nanotubes, paints/coatings, trading, etc.

### Carbon nanotubes

Carbon nanotubes produced using the Super Growth Method. R&D is undertaken in relation to various types of applications for carbon nanotubes, making effective use of their special properties, which include lightness and high strength as well as extremely high levels of electrical and thermal conductivity.



### Reaction Injection Molding (RIM)

Resource-saving, energy-saving plastic molding solutions, with which reaction and molding are simultaneously performed inside the mold.



# Zeon's World-leading Products

Zeon derives its name from the Greek words "geo" (meaning "Earth") and "eon" (meaning "eternity"). In keeping with this name, which embodies our corporate philosophy of "Contributing to the preservation of the Earth and the prosperity of the human race," we contribute to the development of society and to technological innovation by supplying a wide range of products and services that make effective use of the original technologies that we have developed over the years.

## Specialty Synthetic Rubbers

Zeon's specialty synthetic rubber products have for many years now been the backbone of our company's operations, supporting our growth.

Synthetic rubber products have an extensive range of uses, mainly for components that are installed near a vehicle's engine.

Zetpol® hydrogenated nitrile rubber (HNBR) is a world-leading high-performance specialty rubber that we have developed.

With outstanding oil resistance, heat resistance and wear resistance, it is used for vehicle timing belts and as a material for use in hydraulic machinery. Acrylic rubber has particularly impressive heat resistance, and so is extensively used for vehicles' oil seals and hoses, etc.

For more details, see P.33.



## Cyclo Olefin Polymers (COP)

Zeon's independently-developed Cyclo Olefin Polymer (COP) has outstanding optical and chemical properties. Sold under the ZEONEX® and ZEONOR® brand names, it is widely used in the lens, healthcare and biotechnology sectors, and has won widespread praise. As a material for use in various types of camera lenses and in laser printer lenses, it boasts high global market share.

With superior workability and high suitability for precision forming, our COP has a wide range of potential applications.

It is also an environmentally-friendly material, as it does not emit harmful substances even when burned.

For more details, see P.35.



Smartphone camera lenses



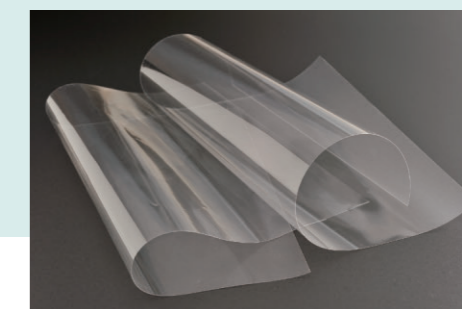
Pharmaceutical containers for medical use

## Optical films "ZeonorFilm®"

ZeonorFilm® is an optical film that uses Zeon's cyclo olefin polymers (COP) as the raw material. It is used as a material for various types of display, including large-sized LCD TVs, tablet PCs, smartphones, etc. With an integrated design approach that includes every stage from polymer design through to product processing, Zeon has been able to maintain high technological capabilities through close linkage between its research institutes and its production facilities, thereby enabling the company to keep creating products that meet the needs of next-generation display devices.

By adopting the sheet extrusion process, the world's first film processing technology of its kind, Zeon has been able to realize high productivity and a reduced environmental burden that overturn conventional wisdom. Using this technique, Zeon has succeeded in rapidly establishing itself as a major player in the optical film sector.

For more details, see P.35.



## Battery (energy) materials

Zeon has developed a battery materials business that includes anode binders, cathode binders and functional layer materials, etc. Responding to the need for lithium-ion batteries to provide high-level performance, we are contributing toward the realization of batteries with high capacity, a high charging/discharging rate, high productivity, superior safety, and long lifespan. In particular, our anode binders hold very high global market share.

With the widespread adoption of electric vehicles throughout the world in recent years, the demand for battery materials can be expected to demonstrate strong growth in the future.

For more details, see P.36.



## Single-walled carbon nanotubes

Carbon nanotubes were discovered by Dr. Sumio Iijima in 1991. In 2004, a team led by Dr. Kenji Hata at Japan's National Institute of Advanced Industrial Science and Technology (AIST) invented the Super Growth Method, which enables highly efficient production of single-walled carbon nanotubes. With support from the New Energy and Industrial Technology Development Organization (NEDO), in 2015 Zeon began operation of the world's first factory undertaking volume production of single-walled carbon nanotubes using the Super Growth Method, under the brand name ZEONANO®.

With its special properties, which include being strong but lightweight, and having very high electrical and thermal conductivity, this "dream" material is expected to have a wide range of applications.

For more details, see P.37.



The single-walled carbon nanotube production facility at Zeon's Tokuyama Plant



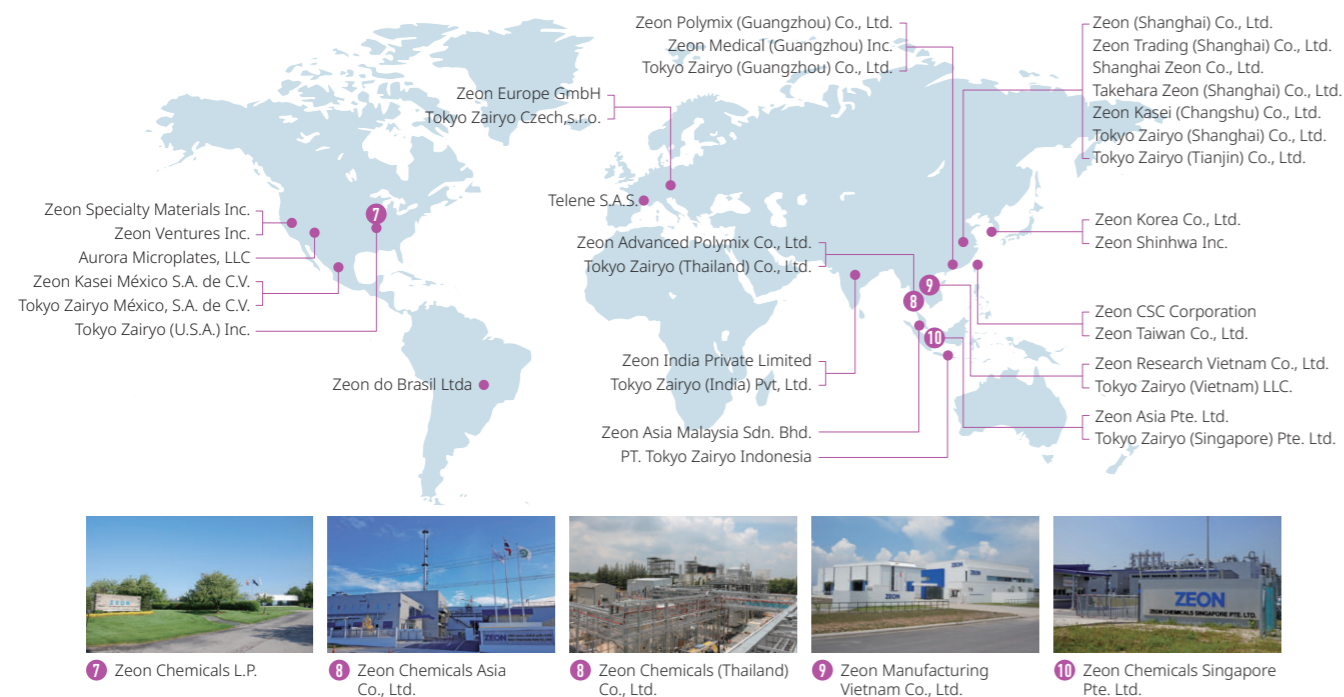
# Company Profile

**Name:** Zeon Corporation  
**Established:** April 12, 1950  
**Capital:** 24,211 billion yen (as of March 31, 2022)  
**Employees:** 3,981 (consolidated), 2,107 (non-consolidated) (as of March 31, 2022)  
**Listed on:** Tokyo Stock Exchange (Prime Market)  
**Business segments:** Elastomer Business, Specialty Materials Business, Other Businesses For more details about Zeon's businesses, please see P.31 "Zeon's Business Strategy."  
**Head office:** Shin Marunouchi Center Building, 1-6-2 Marunouchi, Chiyoda-ku, Tokyo 100-8246, Japan  
**Research laboratories:** Research & Development Center  
**Offices:** Osaka Office, Nagoya Office  
**Plants:** Takaoka Plant, Kawasaki Plant, Mizushima Plant, Tokuyama Plant, Himi-futagami Plant, Tsuruga Plant

## Domestic network

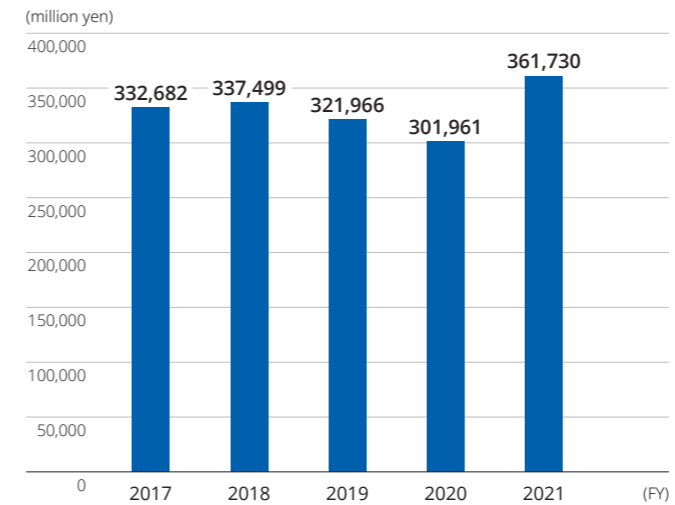


## Overseas network (Group companies)

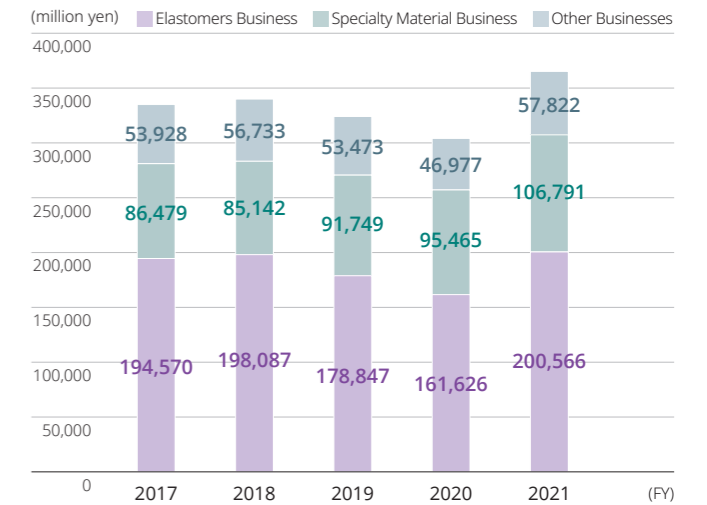


# Financial and Non-financial Highlights

## Consolidated net sales

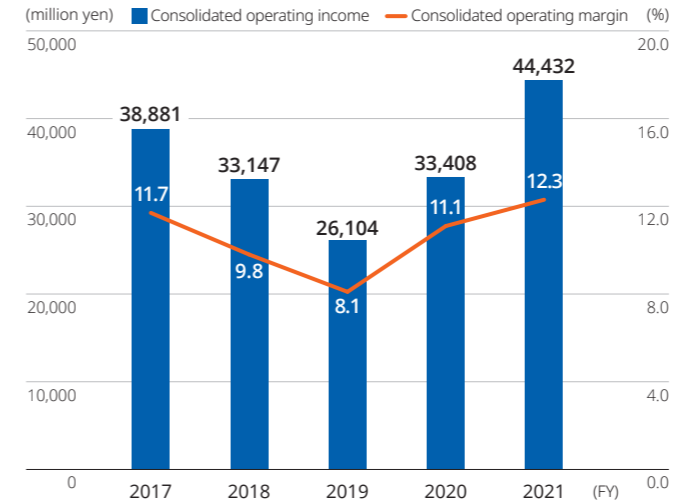


## Segment net sales (consolidated)

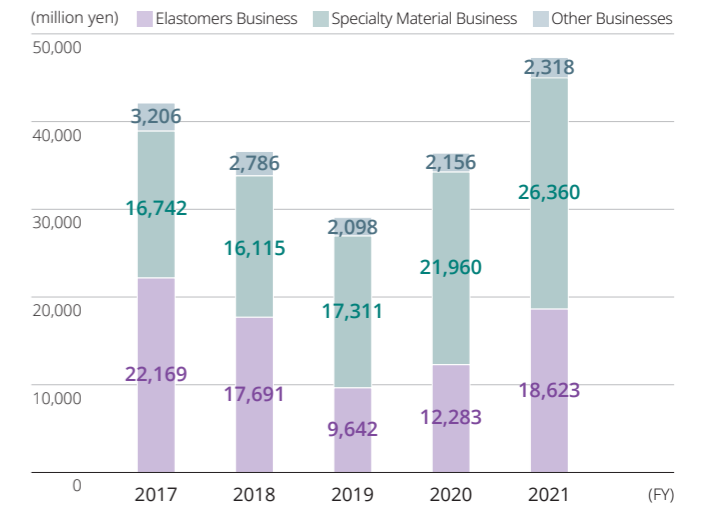


\* Please note that the sum of the sales of individual businesses may not be the same as total consolidated sales due to eliminations or not including the group-wide portion.

## Consolidated operating income and consolidated operating margin

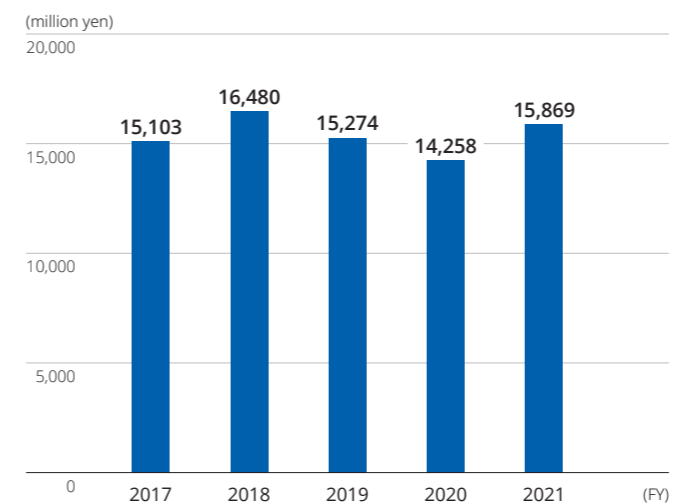


## Segment operating income (consolidated)

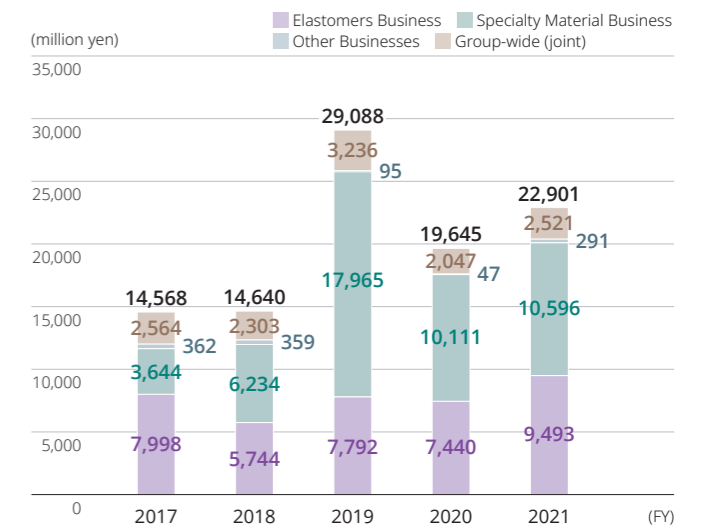


\* Please note that the sum of the operating income of individual businesses may not be the same as total consolidated operating income due to eliminations or not including the group-wide portion.

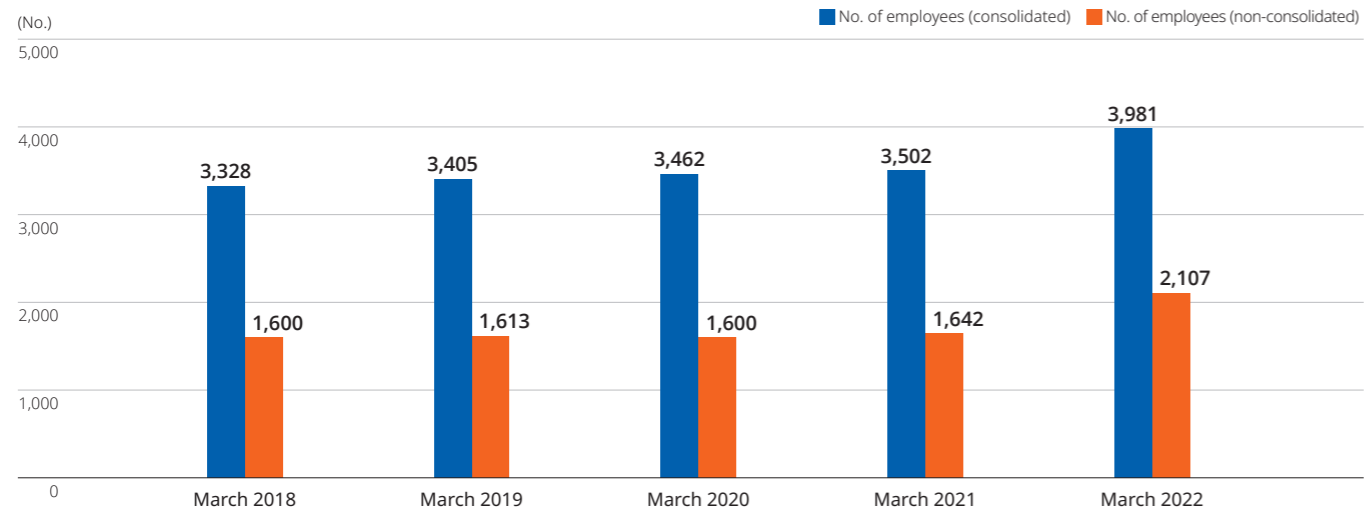
## R&D expenses (non-consolidated)



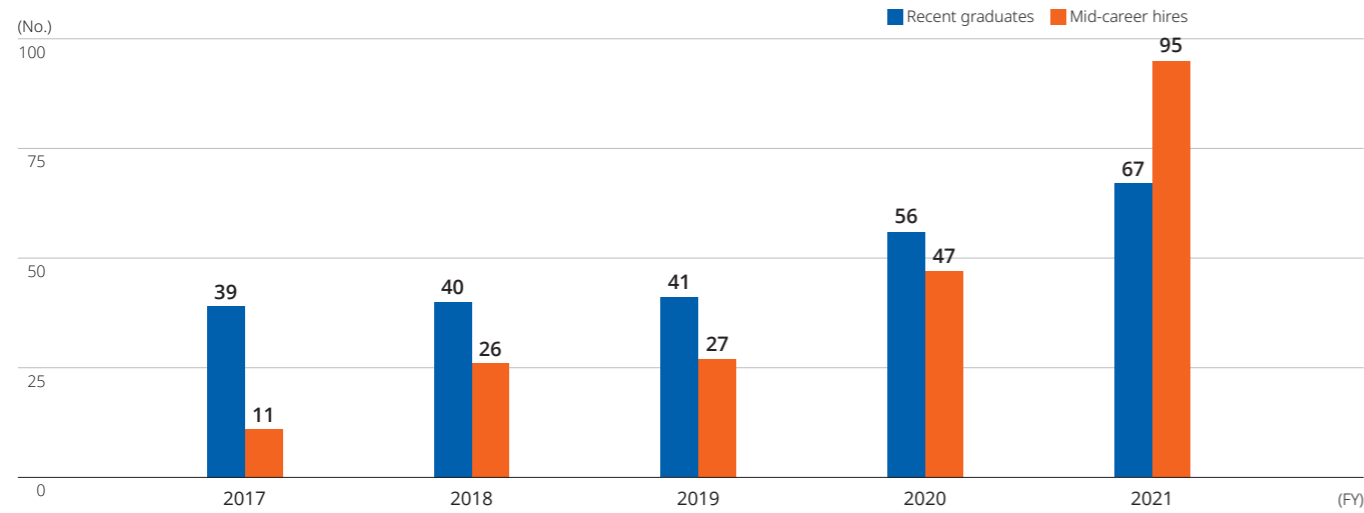
## Capital investment by business (consolidated)



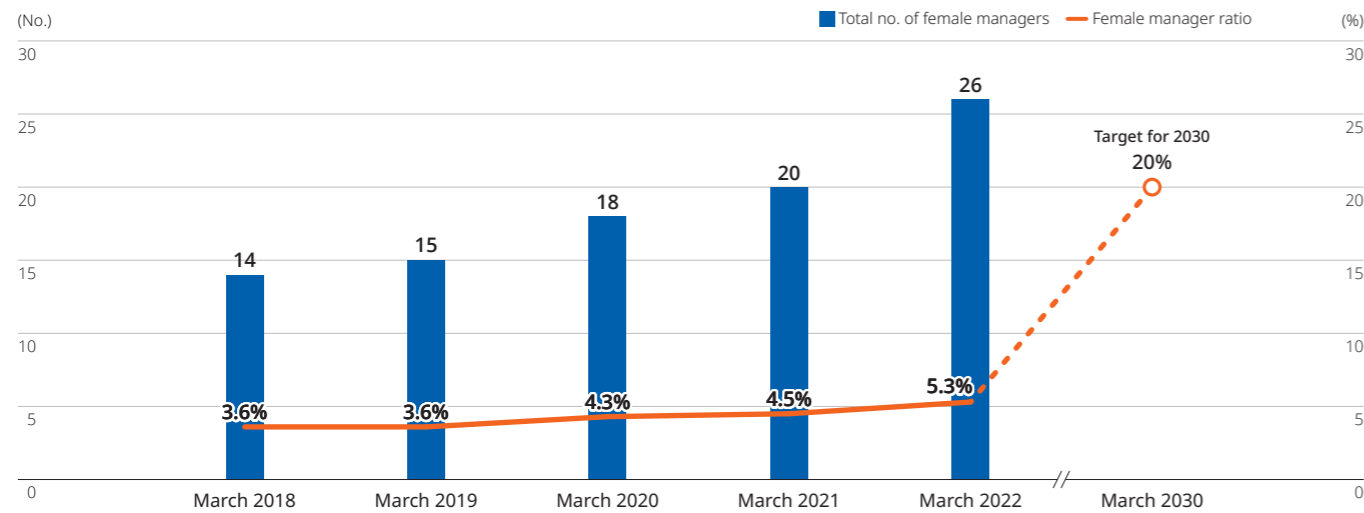
Number of employees (consolidated / non-consolidated))



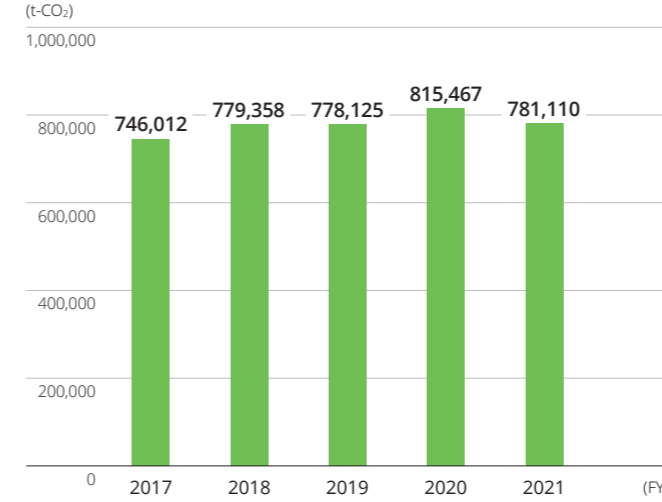
Number of new hires (non-consolidated)



Female manager ratio and number of female managers (non-consolidated)

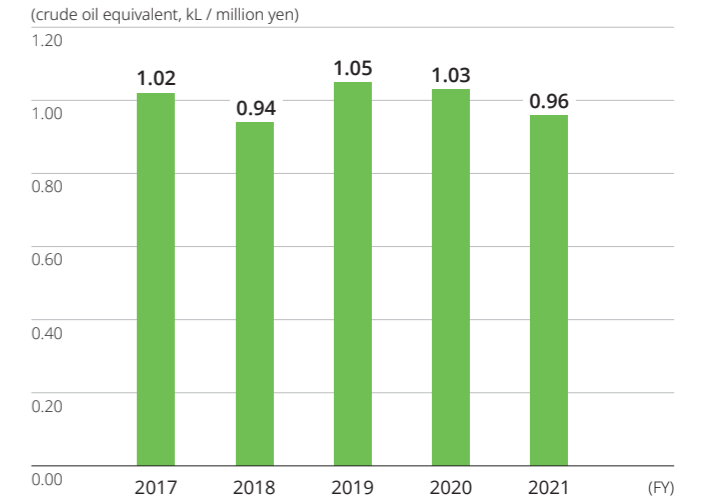


CO<sub>2</sub> emissions (Non-consolidated, Scope 1+2, estimation based on the GHG Protocol standards)



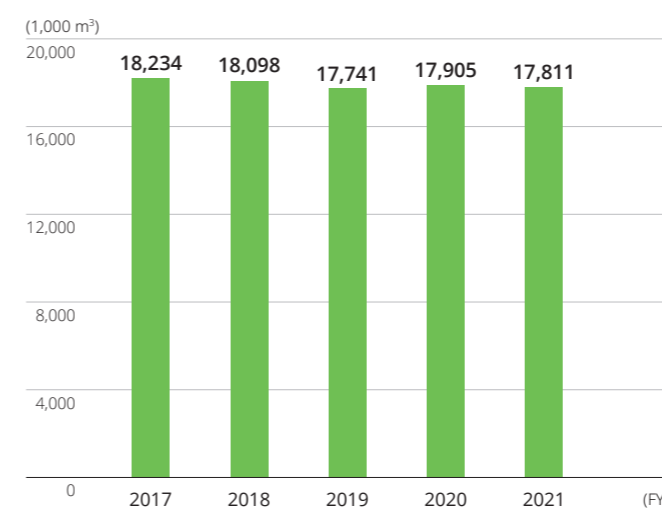
\* CO<sub>2</sub> emissions of Himi-futagami Plant and Tsuruga Plant, which had previously been subsidiaries and were incorporated into Zeon corporation in FY2021 have been added to Zeon Corporation's non-consolidated total for the year FY2019 onwards.

Energy usage per unit of sales (non-consolidated)



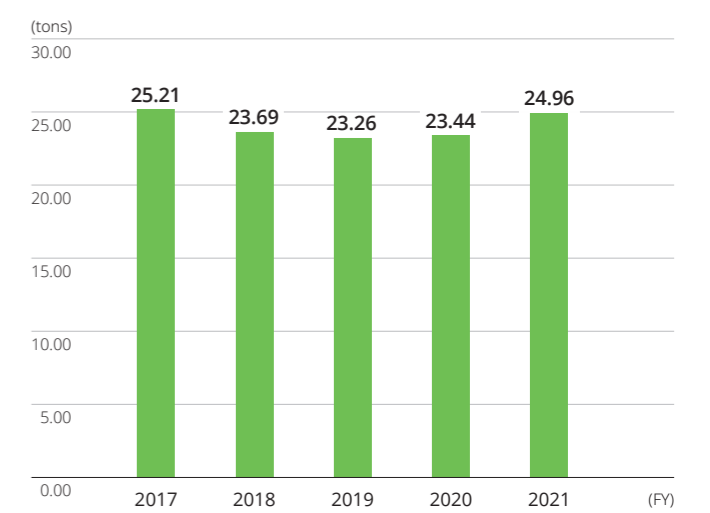
\* Performance of group companies is disclosed on their individual site reports.

Water resource usage (non-consolidated)



\* Performance of group companies is disclosed on their individual site reports.

Emissions of substances subject to the PRTR Act (non-consolidated)



\* Performance of group companies is disclosed on their individual site reports.

TOPICS

Commitments and external evaluations

Commitments

The United Nations Global Compact (UNGC)

**WE SUPPORT**  
UN GLOBAL COMPACT

The United Nations Global Compact (UNGC) is a voluntary initiative aimed at realizing sustainable growth, by encouraging companies and other organizations to act as good corporate citizens through the exercise of responsible, creative leadership, under the guidance of the United Nations. In July 2019, Zeon announced its support for the UNGC's ten principles relating to protection of human rights, elimination of improper labor practices, safeguarding the environment, and preventing corruption.

TCFD

**TCFD**  
TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Task Force on Climate-related Financial Disclosures (TCFD) was established under the Financial Stability Board (FSB) in response to a request from finance ministers and central bank heads of G20. The TCFD recommendations encourage corporations to recognize their own risks and opportunities in relation to climate change and to incorporate these into their business strategy, with the ultimate goal of having corporations disclose the impact of these risks and opportunities. Zeon expressed its support for the TCFD recommendations in August 2020.

External evaluations

CDP



CDP is an international environmental NGO which focuses on three areas: Climate, Water, and Forests. In each of these three areas, CDP administers surveys to business enterprises and gives them one of eight scores: A+, A-, B+, B-, C-, C-, D and D-. In FY2021, more than 13,000 enterprises disclosed data to CDP and Zeon received a B rating.

EcoVadis



EcoVadis assesses the corporate policies, strategies and performance of its participating firms in terms of their impact on the environment, labor practices, human rights, ethical issues and sustainable procurement, by using a platform on which more than 90,000 registered buyers and suppliers in 200 different industries from around 175 countries and regions share data. In 2021, EcoVadis was ranked in the top 50% of firms registered with EcoVadis, and received a Bronze rating.

# Zeon Corporation (consolidated) Data for the Past 11 Years

## Financial and Non-financial Highlights

Fiscal year: April 1 to March 31 of the following year

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>Annual performance</b>											
	million yen										
Net sales	¥ 262,842	¥ 250,763	¥ 296,427	¥ 307,524	¥ 295,647	¥ 287,624	¥ 332,682	¥ 337,499	¥ 321,966	¥ 301,961	<b>¥ 361,730</b>
Operating income	32,123	23,696	29,901	28,245	29,856	30,767	38,881	33,147	26,104	33,408	<b>44,432</b>
Adjusted net income before tax	31,404	23,423	32,528	29,791	26,265	30,928	24,853	27,044	27,480	38,158	<b>46,226</b>
Net income attributable to owners of the parent company	19,127	14,750	19,650	19,080	18,079	23,152	13,056	18,458	20,201	27,716	<b>33,413</b>
Capital investment	22,995	23,489	27,111	28,516	27,650	22,122	14,568	14,640	29,088	19,645	<b>22,902</b>
Depreciation	19,885	18,122	17,068	19,439	20,904	20,431	20,539	18,780	17,448	18,154	<b>21,469</b>
R&D expenses	11,106	11,895	12,661	13,627	14,148	13,233	15,103	16,480	15,274	14,258	<b>15,869</b>
Cash flow from operations	32,009	33,061	36,396	34,006	47,599	49,042	54,462	40,393	28,430	56,080	<b>33,140</b>
Cash flow from investment	(27,644)	(24,858)	(31,513)	(26,767)	(34,847)	(29,121)	(14,951)	(21,426)	(24,570)	(30,239)	<b>(26,436)</b>
Cash flow from financial activities	(5,960)	(10,006)	(10,105)	(12,019)	(9,010)	(15,834)	(11,625)	(23,575)	(8,276)	(8,259)	<b>(11,883)</b>
<b>Financial position</b>											
	million yen										
Total assets	¥ 311,925	¥ 350,508	¥ 370,872	¥ 399,512	¥ 384,753	¥ 411,415	¥ 443,917	¥ 424,937	¥ 405,131	¥ 448,821	<b>¥ 484,660</b>
Tangible fixed assets	97,774	108,937	122,721	134,227	138,526	138,058	115,559	102,323	114,791	117,579	<b>118,299</b>
Interest-bearing debt	67,584	66,483	65,565	58,889	57,064	44,677	38,573	24,125	20,960	18,960	<b>18,960</b>
Net assets	135,480	162,057	181,414	215,631	215,586	244,634	259,940	259,156	260,358	298,246	<b>321,836</b>
<b>Per-share data</b>											
	yen										
Net income per share	¥ 82.75	¥ 63.81	¥ 85.15	¥ 84.13	¥ 79.86	¥ 104.31	¥ 58.81	¥ 84.06	¥ 92.44	¥ 126.74	<b>¥ 153.22</b>
Net assets per share	572.96	685.64	783.11	931.34	949.91	1,082.02	1,158.30	1,172.40	1,176.87	1,349.89	<b>1,487.33</b>
Dividends per share	11	12	13	14	15	16	17	19	21	22	<b>28</b>
<b>Key indicators</b>											
Return on assets (ROA)	10.5%	7.6%	9.0%	8.1%	8.2%	8.0%	9.6%	8.4%	6.9%	9.1%	<b>10.6%</b>
Return on equity (ROE)	15.5%	10.1%	11.7%	9.8%	8.6%	10.3%	5.3%	7.2%	7.9%	10.0%	<b>10.9%</b>
Return on sales (ROS)	12.2%	9.4%	10.1%	9.2%	10.1%	10.7%	11.7%	9.8%	8.1%	11.1%	<b>12.3%</b>



# History of Value Creation

The detailed history of the Zeon Group can be viewed on the updated website.  
<https://www.zeon.co.jp/en/company/special/history/>

In the 1950s, Zeon Corporation acquired technologies from B.F. Goodrich Chemical Company in the U.S. and began manufacturing polyvinyl chloride and specialty synthetic rubber (NBR). From the 1970s onwards, Zeon worked to develop original technologies, and generated a wide range of chemical products that used raw materials extracted through the GPB and GPI processes. As a result, the company was able to expand into a wide range of business areas.

From the 2000s onwards, Zeon has pursued higher value for customers and brought chemical products that provide greater functionality into the world. Today, thanks to its proprietary technologies, Zeon has a number of businesses that control high shares of the global market, and is contributing toward solving social and customer issues through its products and services.

## Changes in Social Circumstances and Needs

### 1950-

This was the time of the rise of the petrochemical industry, when petrochemical complexes were established and quality and quantity of chemical materials were required for economic growth.

### 1970-

In response to the oil crises and the problem of pollution, chemical materials that provide both efficiency and safety were demanded.

### 2000-

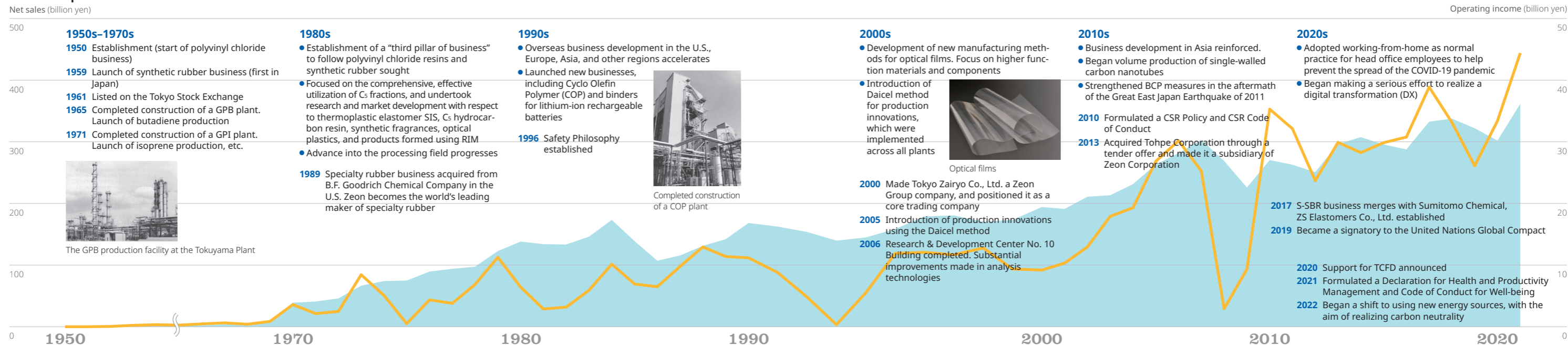
Higher functional chemical products are needed for the advancement of digitization and advanced information technology.

### 2020-

Entering an era of unprecedented demands to reduce environmental impact including zero CO<sub>2</sub> emissions and closed loops

## Business-Related Events

### Zeon Group Business Results



## Examples of technologies and products developed by Zeon

- Prior to the 1960s**
  - Polyvinyl chloride (PVC)
  - Nitrile rubber (NBR)
- 1960s**
  - Geon Process of Butadiene (GPB)
  - Emulsion Polymerized Styrene-Butadiene Rubber (E-SBR)
  - Butadiene Rubber (BR)
- 1970s**
  - Geon Process of Isoprene (GPI)
  - Isoprene rubber
  - Acrylic rubber
  - C<sub>3</sub> hydrocarbon resin
- 1980s**
  - Powder slush compounds (PSC)
  - Ventricular assist device
  - VP latex
  - Hydrogenated nitrile rubber Zetpol®
  - Solution-SBR
  - Alicyclic hydrocarbon resin
  - Thermoplastic elastomer SIS
  - Synthetic aroma chemicals
  - RIM products and compounds
  - Electron beam resist
- 1990s**
  - Balloon catheters
  - NBR latex
  - Binder for lithium-ion batteries
  - Cyclo Olefin Polymers (COP) ZEONEX®, ZEONOR®
  - ZEORORA® etching gas
  - Polymerized toner
- 2000s**
  - ZeonorFilm® optical film, which is made using the sheet extrusion process, with sequential biaxial film stretching method, and diagonally-stretched retardation
  - Polymerized color toner
  - Asymmetric SIS
  - Cyclopentyl methyl ether, an ether solvent
- 2010s**
  - Single-walled carbon nanotubes formed using the Super Growth Method
  - Microfluidic chip prototype provision service
  - SOLAR CARD®
  - Technology for creating isoprene from biomass
  - Fractional Flow Reserve (FFR) measurement device
- 2020s**
  - Crystalline Cyclo Olefin Polymer (COP)
  - Technology for creating butadiene from biomass
  - High thermal interface materials (TIM)
  - Cycle Olefin Polymer (COP) recycling technology
  - Technology for controlling lithium dendrites using CNT

# Value Creation Flow

Taking the new Medium-Term Business Plan (implementation of which began in FY2021) as the foundation, the Zeon Group is contributing toward building a “Sustainable Earth” and a “Safe and Comfortable Life for People” through the provision of unique, innovative technologies and services.

Being aware of social issues and social change ▶



\* VUCA: Volatility, Uncertainty, Complexity and Ambiguity



## Corporate Philosophy = Mission

**Contributing to the preservation of the Earth and the prosperity of the human race**

## Vision for 2030

**A company that lives up to societal expectations and the aspirations of employees**

### Management Resources—INPUTS

#### Human capital

- Employees: **3,981** (Group-wide, as of March 31, 2022)
- HR development
- A human resources system that encourages employees to challenge themselves

#### Financial capital

- Maintaining stable cash flow
- Capital **24.2** billion yen
- Total assets **484.7** billion yen
- Net assets **321.8** billion yen

#### Manufacturing capital

- Strengthening production capacity
- Within Japan **6** plants and **1** research center, and **18** group companies
- Outside Japan **41** overseas group companies (including sales companies)
- Risk diversification
- Improving safety

#### Intellectual capital

- R&D expenses: **15.9** billion yen (FY2021)
- Keeping R&D and production activities in close proximity

#### Natural capital

- Ensuring a stable supply of naphtha (an important raw material)
- Reducing the amount of energy used in production activities

#### Social capital

- Technology support for customers
- Collaboration with local communities

## Zeon's Business Model —VALUE DRIVERS

### The New Medium-Term Business Plan —Group-wide Strategy

- Promote a transformation of *monozukuri* to realize a carbon neutrality and circular economy**
- “Polish up” existing businesses**
  - Strengthen COP and battery materials**
    - Increase production capacity
    - Improve resilience
    - Launch new products
  - Ensure the survival of existing SBUs**
    - Elastomers**
      - Strengthen products having a competitive edge
      - Raise the efficiency of each production line
    - Specialty Materials**
      - Bolster our competitive edge by developing products and increasing production capacity
- “Explore” new businesses**
  - Focus on 4 key areas**
    - CASE and MaaS
    - Healthcare and life science
    - Telecommunications
    - Energy conservation
- Work together to create “stages” to be active on**

### Zeon's Strengths and Competitiveness

- A high-level integrated use development model for C<sub>4</sub> and C<sub>5</sub> fractions, making use of Zeon's unique technologies, including the GPB and GPI processes
- Thoroughly clean plastics manufacturing technology (specialty plastics)
- A comprehensive, integrated development and manufacturing capability that covers every stage from plastics material design through to component manufacturing using Zeon's unique technology (optical film, life sciences business, etc.)
- Simulation technology that supports customer's product development and evaluation activities (battery materials)

### Business Areas

#### Existing Businesses

- Elastomers Business**
  - Synthetic rubbers
  - Latex
  - Chemicals

#### Specialty Material Business

- Specialty plastics
- Optical films
- Specialty chemicals
- Battery materials
- Electronics materials
- Toner
- Medical devices

#### New Businesses

- Key Areas**
  - CASE and MaaS
  - Healthcare and life science
  - Telecommunications (5G/6G)

- Products that can contribute toward solving problems for society, including energy-saving products, etc.

### SDGs targeted by Zeon



### Core Values

Let's try first

Let's connect

Let's polish up

### Value Creation—OUTCOMES

#### Directions for 2030 (what we want to be)

##### Live up to societal expectations

- Continuing to contribute to a sustainable society
- Providing products and services that society cannot do without

##### Live up to the aspirations of employees

- Take vigorous action with the steps “Let's try first,” “Let's connect,” and “Let's polish up”

### FY2021 Results—OUTPUTS

- Net sales: **361.7** billion yen
- Operating income: **44.4** billion yen

### Targets for 2030

- CO<sub>2</sub> emissions: **50%** reduction (non-consolidated, as compared to FY2019, Scope1+2, estimation based on the GHG Protocol standards)
- Sales ratio of products that contribute to the SDGs: **50%**
- Existing businesses: ROIC **9.0%**
- New businesses: Net sales (compared to FY2019) **+60.0** billion yen
- Employee engagement: **75%**
- Ratio of foreign-national and female directors: **30%**

For more details about the Medium-Term Business Plan, see P.25.

## Message from the President



Kimiaki Tanaka  
President and CEO  
Zeon Corporation

\* Based on an interview conducted on June 10, 2022.

## Preparing for the Future with Sincerity

The attitude that underpins how I approach life can be summed up in one word: sincerity. I tell our employees: “If you make a serious effort to pursue your dreams or your vision of the future, you can transform everything.” Making a serious effort, in this sense, means sincerity. This is something that I learned from my calligraphy teacher when I was a student, and from my homeroom teacher in elementary school, and it is a tenet that I have continued to hold to since becoming President and CEO of Zeon Corporation.

During the discussion meetings that were held as a company-wide project when formulating our current Medium-Term Business Plan, I made frequent references to the meaning of sincerity. As I see it, the suggestions that we received from the employees who volunteered to participate in these discussions were all closely linked to our Core Values of “Let’s try first,” “Let’s connect” and “Let’s polish up.” So, I feel that our Medium-Term Business Plan is based on sincerity, and I have high expectations of the implementation of this plan. I hope that this kind of approach will continue to serve as the foundation underpinning our company from 2030 onwards.

## Zeon’s strengths, enabling us to overcome the changing business environment in the medium to long term

Key trends that warrant attention in the business environment in which our company operates include the growing focus on the Sustainable Development Goals (SDGs) and the acceleration of Volatility, Uncertainty, Complexity and Ambiguity (VUCA).

These trends can be expected to become even more pronounced in the future. Our corporate philosophy and Vision for 2030 will guide us to continue making steady forward progress in this environment. Taking them as the axis around which our operations revolve, and honing our ability to respond to change, is very important in terms of enabling us to continue contributing toward the resolution of social problems over the medium to long term, while also continuing to grow as a company. There are two concrete perspectives that we need to adopt. The first is to contribute to society through those of our businesses that are currently already very strong, in other words by providing society with innovative products that only our company can supply, and having customers use them. The second is to expand those businesses that can respond to society’s needs in relation to the realization of the SDGs or carbon neutrality.

Zeon’s strengths when it comes to business growth and enhancing corporate value are “original products and technology” that “cannot be imitated or imitated by others.” I have believed this ever since I first joined the company. Zeon has produced many innovative products and technologies, such as the GPB and GPI processes for separating various types of materials from C<sub>4</sub> and C<sub>5</sub> fractions, our

hydrogenated nitrile rubber (HNBR) specialty rubber, and our optical film, which is made using an original extrusion technique. Our stance, which we have cultivated throughout our long history, of continuing to pursue the creation of products that do not imitate others, and that others cannot imitate, remains unchanged, and will remain unchanged in the future. I think that we can safely say that this is one of our company’s strengths.

I feel that another of our company’s strengths is having a corporate culture in which people are willing to listen to the views expressed by young people. When I was still a student, I happened to have the opportunity to talk to young employee of Zeon Corporation, a company that I had not heard of until then. Intrigued by his comment, accompanied by a smile, that “Zeon Corporation is a company where they listen to young people,” I visited the company, and that was what led me to decide to seek employment with Zeon. In point of fact, I am a product of this corporate culture myself. Despite now being the President, I still have many opportunities to listen directly to employees’ views in relation to various projects, etc., and I never make negative comments such as “That’s enough of that!” I believe that this corporate culture of listening to young people has been the foundation for the development of original products and technologies. The “Live up to the aspirations of employees” element of our Vision for 2030 embodies a desire to continue maintaining this culture.

## Zeon’s performance in FY2021 and our recent status

In FY2021, not only did both our Elastomers Business and Specialty Material Business benefit from consistently high demand, there was also a favorable external environment with the weak yen, and as a result we were able to post our best ever performance across a range of indicators from net sales to net income.

However, more recently, we have seen rising oil prices due to the situation in Ukraine, and the yen has continued to weaken against the U.S. dollar. Other raw materials have also risen in price, and we have been affected by a number of different impacts, including logistics disruptions. Although Zeon does not have any production facilities in Russia or Ukraine, we have still been indirectly affected by the conflict.

As regards COVID-19, although the number of cases in Japan has been falling, our plants and offices in China have been affected directly by the lockdown, and indirectly affected by the lockdowns that have affected Chinese industry in general. We have also had to pay close attention to the additional impact of international events, such as the deteriorating relationship between the U.S. and Russia.

Furthermore, as noted in our financial statements for the previous fiscal year, logistics issues such as the shortage of containers and rising sea freight costs have had a major impact on our operations. Besides these factors, which have increased our costs, there have been cases where it has not been possible to ship goods on schedule.

In response to this situation, on May 1, 2022 we established a new Supply Chain Division. Whereas in the past raw materials procurement and product delivery were handled by separate departments, going forward we will have a single unit exercising unified control over every aspect of the supply chain. With the major changes taking place in the external environment, we will be working to ensure that we are not negatively affected by these external impacts, or that, if we cannot avoid their effects entirely, we are at least able to minimize the impact.

To take an example, in the case of raw materials, we have many products for which the raw materials are only available from a limited number of suppliers. In fact, because our company is focused on providing original products and developing original technologies, in many

“I believe that, over the medium to long term, providing the world with large numbers of products that contribute toward realizing the SDGs will help both to drive growth for our company and to address social problems. With this in mind, we have set ourselves the target of having products that contribute toward the SDGs account for at least 50% of our total sales, with 2030 as the target year for achieving this, and we are proceeding with discussions on the establishment of a “System for Certifying Products that Contribute Toward the Realization of the SDGs.”



## Working toward carbon neutrality

As a chemical manufacturer, the achievement of carbon neutrality by 2050 is a vital issue for Zeon. To this end, we spent the whole of last year considering how best to formulate our master plan for carbon neutrality, and in our initial master plan we set ourselves the target of reducing Scope 1+2 CO<sub>2</sub> emissions by at least 50% by FY2030, compared to FY2019. While this target is a challenging one, it also represents an important milestone that we will need to pass in order to achieve carbon neutrality in the future.

By April 2022, four of our production facilities had switched over to renewable energy for 100% of the electricity that they purchased (P.27). Our other plants are also proceeding with the adoption of renewable energy.

For those plants that are located within an industrial complex, there is a need to coordinate the change with other companies in the vicinity. Zeon's Tokuyama Plant has already begun holding discussions in the Shunan Industrial Complex where it is located. As regards our overseas production locations, in the case of ZCS\* in Singapore, as Jurong Island constitutes a single large industrial complex, ZCS is participating in an island-wide plan to realize carbon neutrality. This is being closely coordinated with the electric power company to ensure a continued stable supply of electricity. Going forward, although the switch over to alternative forms of energy will be accompanied by increased procurement costs, we will be able to market our products as having reduced CO<sub>2</sub> emissions.

\* Zeon Chemicals Singapore Pte. Ltd.

Our current Scope 1+2 CO<sub>2</sub> emissions currently stand at approximately 780,000 t-CO<sub>2</sub>. By shifting over to green energy, we can reduce this figure by around 80% by 2030. To eliminate the remaining 20%, we will need to take on various challenges in terms of energy-saving and process improvement. We will meet these challenges by mobilizing the combined wisdom of all our employees. Up until now,

## Refining our existing businesses and exploring new business areas

I believe that, over the medium to long term, providing the world with large numbers of products that contribute toward realizing the SDGs will help both to drive growth for our company and to address social problems. With this in mind, we have set ourselves the target of having products that contribute toward the SDGs account for at least 50% of our total sales, with 2030 as the target year for achieving this, and we are proceeding with discussions on the establishment of a “System for Certifying Products that Contribute Toward the Realization of the SDGs.” As I see it, in order to achieve the objectivity and quantifiability that are needed in order to be acceptable to society, there are three common requirements: (1) Innovativeness; (2) Making a contribution toward the particular SDGs that we are focusing on; and (3) Being capable of securing a positive reaction from society. In addition to the above, I anticipate that products and

we have implemented a series of measures that had offered high cost-benefit performance. However, in order to achieve further emissions reductions in the future, it will unfortunately no longer be enough to implement emissions reduction measures on the basis of existing investment criteria, because of the issues relating to how long it will take to recoup the cost of investment. In order to address this problem and proceed with related investment, we will be adopting an internal carbon pricing (ICP) system and we will be reflecting the amount of CO<sub>2</sub> emissions reductions that each measure can achieve in our investment return calculations.

For more details about the Carbon Neutrality Master Plan, see P.26.

For more details about our internal carbon pricing (ICP) system, see P.27.

As regards Scope 3 emissions, the reality of the situation is that there are many uncertainties regarding how best to quantify CO<sub>2</sub> emissions associated with the procurement of raw materials, and with the processing and use of our company's products by our customers. Accurate estimation of Scope 3 emissions will need to be based a future ruling by Japan's Ministry of Economy, Trade and Industry (METI), but we will be examining the existing strategic business unit (SBU) specific CO<sub>2</sub> emissions reduction measures and their effectiveness, and our Carbon Neutral Endeavor Department will be making the necessary preparations for achieving visualization of the related data.

Regarding our efforts in relation to the circular economy, we have developed technology for recycling cyclo-olefin polymers (COP), which are used in a wide range of materials, including optical film. We plan to have a COP recycling plant operational at our Takaoka Plant by 2024. In addition, we have begun to undertake joint research on creating raw material for synthetic rubber from used tires and biomass.

services that contribute toward at least one of the following will also be certified as contributing toward the realization of the SDGs: Responding to climate change or helping to reduce the burden on the environment, and facilitating effective utilization of resources or helping people to live safely and contentedly. While the actual details of the certification system still need to be worked out, we will be adopting a flexible approach based on the current circumstances.

For more details of Medium-Term Business Plan measures, see P.25.

Our target for return on invested capital (ROIC) in our existing businesses has been set at 9.0% by 2030. In point of fact, in FY2021 we achieved an ROIC of 9.7%, partly due to the weak yen. Going forward, it can be anticipated that there may be a temporary fall in ROIC due to the implementation of investments, and there is a possibility that the target for

cases we are dependent on only a single supplier for certain raw materials. In order to prevent this reliance on a limited number of suppliers from becoming a source of risk, we make sure that we maintain stockpiles of relevant materials, and we are examining strategies for securing

alternative suppliers. Regarding the issue of CO<sub>2</sub> emissions in the supply chain, given the need to collect and analyze comprehensive data for the entire supply chain, and to draw up and implement a supply chain strategy, we are expecting the Supply Chain Division to play a key role here.

## Zeon's views regarding the electrification of the automotive sector

Zeon supplies components for use in vehicles across a wide range of areas, and so the once-in-a-century transformation that is taking place in the automotive sector can be expected to have both positive and negative effects on our company.

Looking at recent trends in electrification of the automotive sector, it is apparent that the growth in sales of battery-powered vehicles is exceeding expectations. This is an area where Zeon's Energy Materials Business is particularly strong, with three main product categories: cathode binders, anode binders, and functional layer materials. With the process of electrification expected to continue for several decades, we have high expectations for the growth of our Energy Materials Business. At the same time, with development of solid-state batteries (SSBs) continuing to progress, we intend to develop carbon nanotube related component businesses, so that our company's materials can be used in new sectors. For Zeon, therefore, the electrification of the automotive sector represents an opportunity to expand our business areas.

While demand for conventional vehicles equipped with internal combustion engines is bound to shrink in the future overall, there are some regions—such as Southeast Asia and India—where there is still room for growth in the near future, and we will be responding to these needs,

including through the provision of technical services. Nevertheless, as the market for vehicles with internal combustion engines starts to shrink, we will have to respond to this, and we may be forced to withdraw from some market segments where there are no factors that enable us to differentiate ourselves from competitors. We will therefore be examining all our products individually to determine whether there is potential for differentiation.

Another important point is that both internal combustion engine vehicles and electric vehicles need tires that offer good fuel economy. Solution-styrene butadiene rubber (S-SBR), which is a raw material for making fuel-efficient tires, has been very well-received, and we anticipate that this product will continue to do well in the future. Similarly, for air conditioning unit, suspension and gearbox components, specialty rubber will continue to be used in the future, regardless of whether the vehicle is an electric vehicle or not.

As I see it, the key points that we need to focus on with our Elastomers Business in the future include addressing the new demand that electrification stimulates and undertaking development of related new products, as well as optimizing the business.



“Regarding our employees, they worked tirelessly to keep production going during the COVID-19 pandemic, and many employees are currently participating voluntarily in the formulation of our new Medium-Term Business Plan, so I would like to take this opportunity to thank all of the employees who have made such unstinting efforts. Going forward, we will continue to attach great importance to our Core Values of “Let’s try first,” “Let’s connect” and “Let’s polish up,” as we have done in relation to the new Medium-Term Business Plan, and as a first step I myself will be aiming to embody an example of sincerity.”

DI&B Project, focused on the key themes of Diversity, Inclusion and Belonging. This choice of key themes reflects the fact that the project team that was brought together for D&I promotion when formulating the new Medium-Term Business Plan considered a sense of belonging to the organization to be important. The team’s proposal was accepted, hence the inclusion of “Belonging” as one of the themes. Zeon’s management team holds regular dialogs with the DI&B Project team, aiming to deepen mutual understanding, learn new approaches together and benefit from the stimulation provided.

Recognizing the need for concrete goals in order to form a diverse core talent pool, we have set new targets for the female employee ratio and female manager ratio, to be achieved by 2030. In both cases, the goal is to reach a ratio of at least 20% by 2030. As of March 31, 2022, only 13% of Zeon’s employees and only 5% of managers were women. Going forward, we will be actively recruiting women, including both new graduates and mid-career hires, and we will also promote the appointment of women to a wider range of positions beyond production line work. However, our efforts to promote diversity will not be lim-

ited to gender. We will be implementing reforms with the aim of achieving real diversity, including the active recruitment of foreign nationals, persons with disabilities, and senior citizens, while also aiming for diversity in terms of skills and background.

For more details about the “work together to create ‘stages’ to be active on” strategy, see P.29.

For more details about our human resources strategy, see P.43.

Regarding our employees, they worked tirelessly to keep production going during the COVID-19 pandemic, and many employees are currently participating voluntarily in the formulation of our new Medium-Term Business Plan, so I would like to take this opportunity to thank all of the employees who have made such unstinting efforts. Going forward, we will continue to attach great importance to our Core Values of “Let’s try first,” “Let’s connect” and “Let’s polish up,” as we have done in relation to the new Medium-Term Business Plan, and as a first step I myself will be aiming to embody an example of sincerity, while striving to grow our businesses and the company.

2030 may need to be adjusted.

As regards our target of having sales in new business areas increase by at least 60 billion yen by FY2030 compared to FY2019, as some of these new businesses have only been got off the ground in FY2021, and as this is only the first year of implementation of the new Medium-Term Business Plan, in absolute terms the new business sales figures for the past year are not particularly high.

Besides developing our own technology in-house, we are also aiming to strengthen our technological capabilities by incorporating other companies’ technology. More specifically, this will involve M&A activity and investment in startups. The important thing is to ensure that there is compatibility between our corporate culture and that of

the partner company. We will be striving to develop an in-depth understanding of the corporate culture so that each business can continue to proceed smoothly, and grow, after the initial investment.

Our initiatives in relation to new business areas are aimed at cultivating businesses that can serve as an important new pillar of growth for our company in the medium to long term. To this end, I anticipate that we will continue to expand our operations, looking ahead not just to 2030, but beyond that to 2040 and 2050. Going forward, we will be strengthening investment in four key areas—CASE and MaaS, healthcare and life sciences, ICT (5G/6G), and energy-saving—including investment through M&A activity.

### About our “work together to create ‘stages’ to be active on” strategy

The results of a survey conducted in FY2021 showed that our employee engagement index stood at 52%. This is low compared to our target for 2030, which is 75%. However, the main purpose of the survey was to quantify the current state of employee motivation, which will be a key driver for us in working to enhance corporate value over the medium to long term, and to identify areas where improvements can be made. We are therefore taking a positive approach to the FY2021 survey results, because they show that we have considerable room for improvement. In fact, we are looking forward to seeing what kind of changes we will see as a result of the measures that we implement in the future. I believe that, to strengthen employee engagement, it is important to ensure that employees can visualize their career path, so that they can strive for personal growth in a more self-directed manner. With this in mind, we will be

positioning “making job roles more transparent” as an important current issue, and we will be making a start on overhauling our personnel system for managerial staff, taking “job roles” as the starting point.

When the COVID-19 pandemic began, we introduced a teleworking system, but there has been a problem with inadequate communication between employees. In response to this issue, our head office building has been renovated and renamed as “Z-SQUARE.” The aim is to transform the office from being merely a place for work, into a location for collaboration and co-creation related communication, and for the holding of seminars and other educational and training activities. My personal hope is that Z-SQUARE will be a place where people can interact with sincerity, and which will help to hone a new corporate culture.

Regarding the issue of diversity, we have launched a

### Corporate governance and financial strategy

Zeon’s stock market listing has moved to the Prime Market of the Tokyo Stock Exchange (TSE). The Prime Market is more than just a rebranding of the old First Section of the TSE. It is best thought of as a market where listing is open only to those companies that have demonstrated a high level of corporate governance. As befits a company listed on the Prime Market, we will be working to fulfil our mission with respect to not only our shareholders and investors, but all our stakeholders.

For the Board of Directors, we have set ourselves the target of having foreign nationals and women account for at least 30% of all board members by 2030. As a first step in this direction, in June 2022 we appointed our first female director. At the same time, besides diversity in terms of nationality and gender, diversity in terms of skills is also very important. Zeon has for many years now held to an approach that emphasizes “having a Board of Directors characterized by diversity, with directors who have different backgrounds in terms of knowledge, experience and areas of special expertise.” In order to realize continued diversity of the Board of Directors, I believe that it is vitally important to appoint directors who possess these diverse skills, and to cultivate future candidates for board positions who have similarly diverse skills.

Our outside directors, who play an important role in providing this kind of diversity of skills, have given us many valuable opinions based on their extensive experience and know-how, and they have made a valuable contribution toward the management of the company. Zeon carries out both quantitative and qualitative analysis of its own strategic shareholdings on an annual basis, with the Board of Direc-

tors deciding whether such holdings should be retained. It is also important to enhance share liquidity. In the future, when undertaking large-scale investments, we will consider using stock as a source of funding for the investment.

Last year, we established the IR & SR Office as a dedicated contact window, to enhance communication with shareholders and investors. In this way, as I see it, we have put in place an environment in which it will even easier for the management team to listen to the views expressed by shareholders and investors. We will listen to these views with the utmost seriousness, and I intend to continue engaging in dialog with shareholders and investors while tackling the various management issues that the company is faced with.

As regards dividends, it has been announced that the company will be stepping up the returning of profits to shareholders in 2022. Our dividend policy emphasizing “stability and continuity” remains unchanged for the time being. Going forward, I hope to be able to continue returning profits to the shareholders who have supported our company, while taking into account the company’s future operational performance, cashflow situation and investment status, etc.

I look forward to receiving your continued support and encouragement in the future.

Kimiaki Tanaka  
President and CEO  
Zeon Corporation

# Progress of the Medium-Term Business Plan

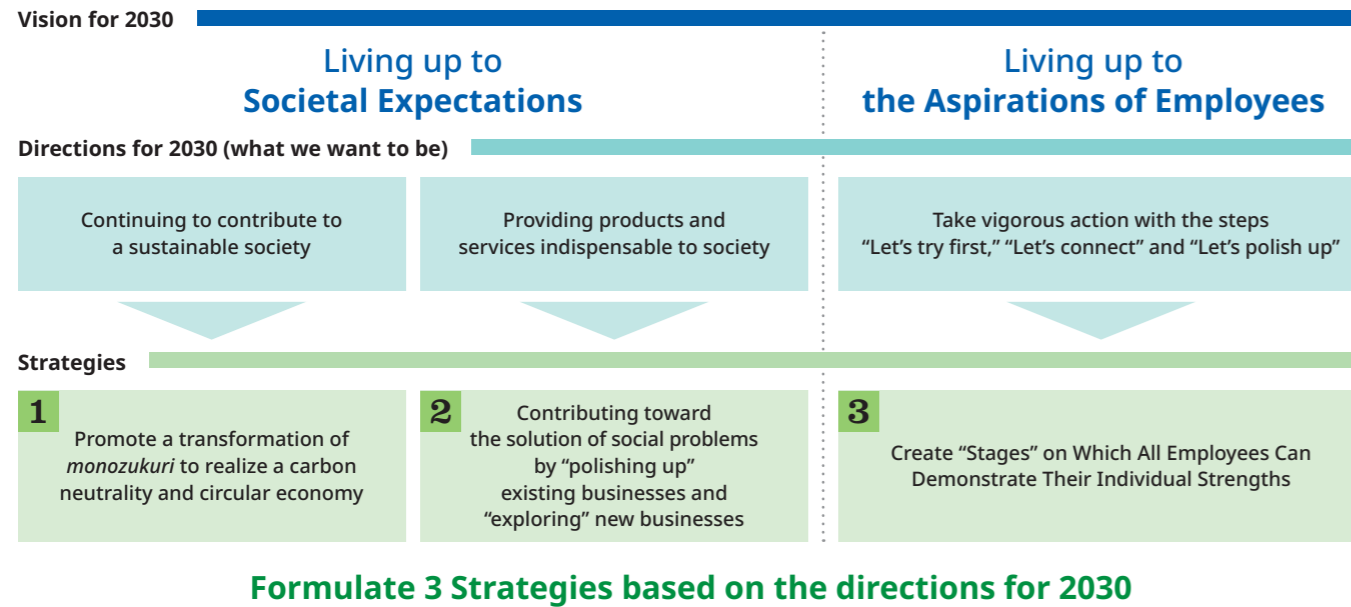
## Overview of the Medium-Term Business Plan

In 2021, Zeon announced its Vision for 2030, and formulated three company-wide strategies to realize this vision.

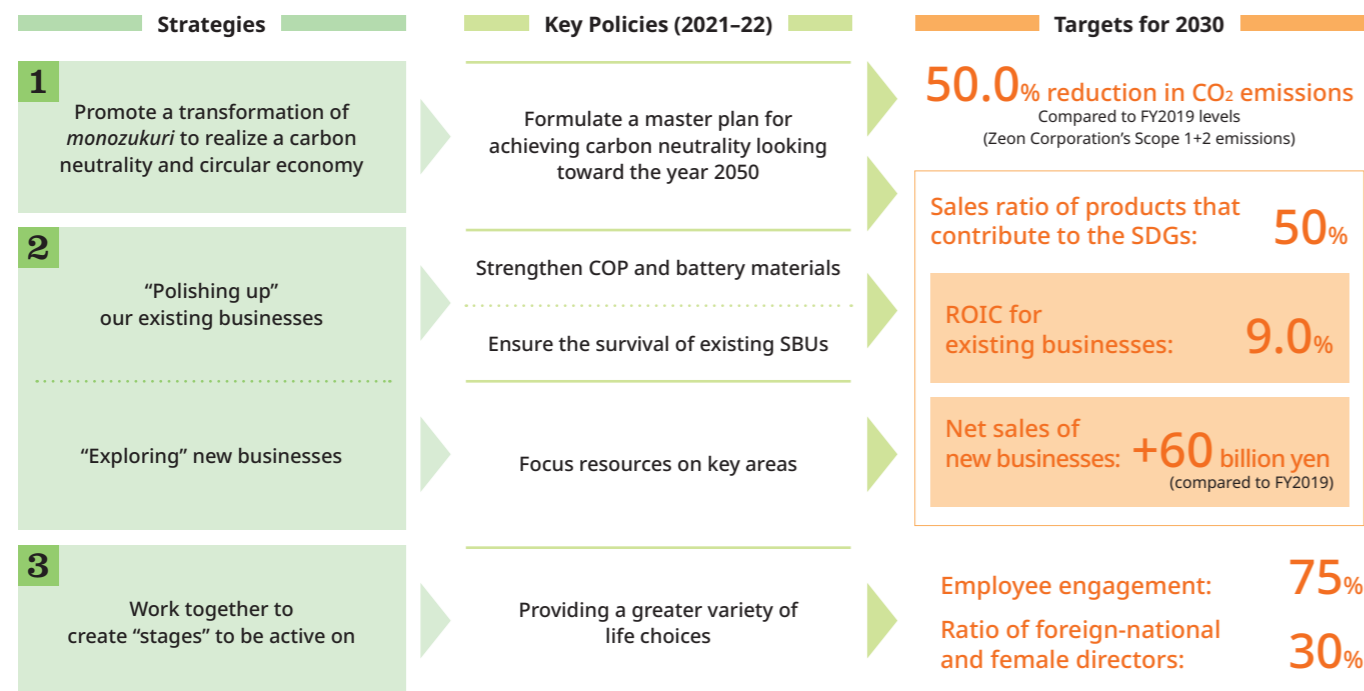
Zeon has also set targets for 2030, in line with the three company-wide strategies. To meet these targets, we have

announced key policies for implementation in 2021 and 2022. In order to be able to adjust flexibly to changing circumstances in this era of rapid transformation, the intention is to update the key policies every two years.

## Direction for 2030 and Company-wide Strategies



## Company-wide Strategies and Targets for 2030

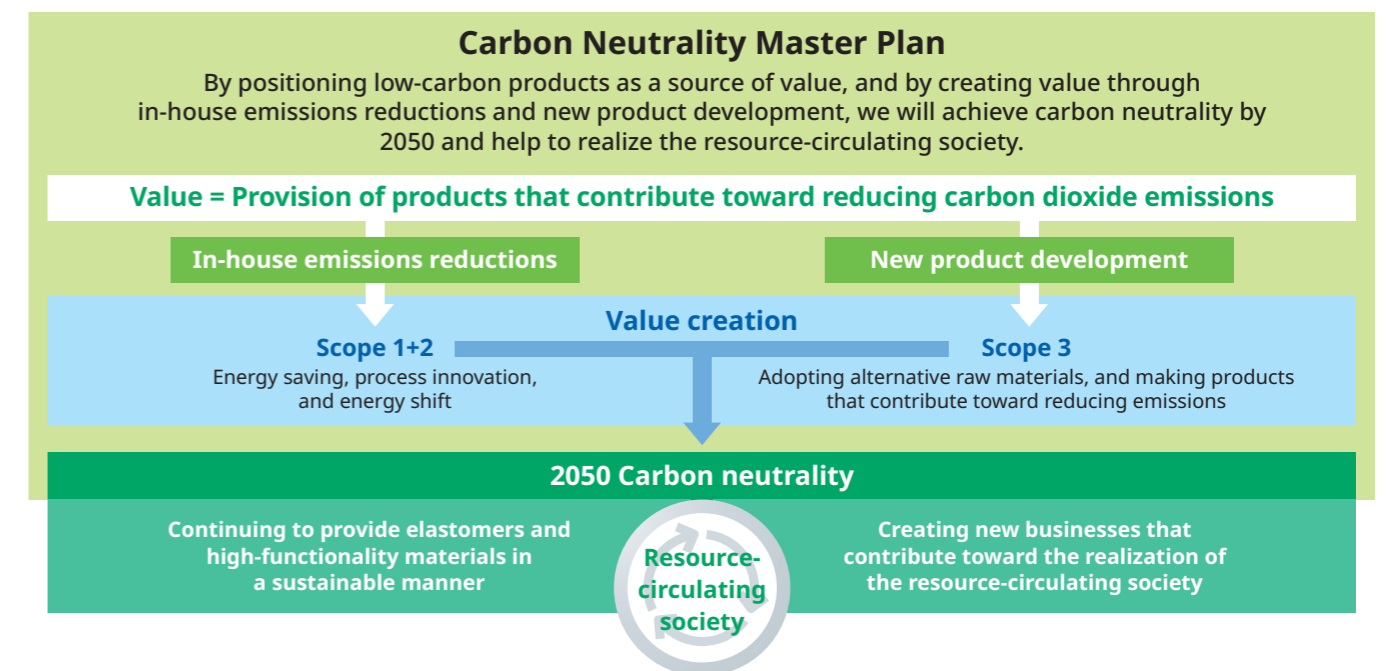
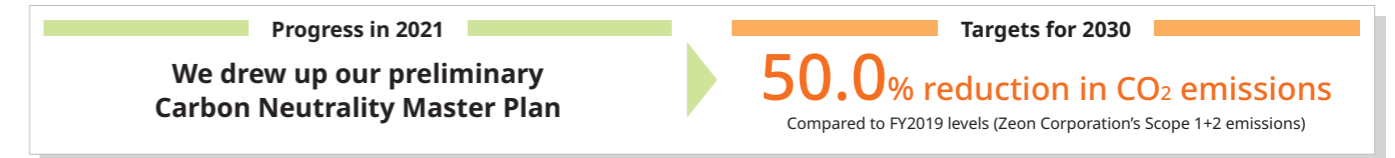


## Strategy 1

### Promote a transformation of *monozukuri* to realize a carbon neutrality and circular economy

Regarding Strategy 1, in 2021 we formulated a preliminary Carbon Neutrality Master Plan. We set emissions reduction targets for 2030, aiming toward the achievement of carbon neutrality by 2050. This target applies to the combined Scope 1 and Scope 2 emissions of Zeon Corporation. Going forward, we will update this plan as necessary. In the future, we will also

be estimating our Scope 3 emissions—which represents the impact of CO<sub>2</sub> emissions deriving from our purchasing of raw materials and from the processing and use of our company's products, including any increase or decrease in this impact—using an appropriate calculation method.

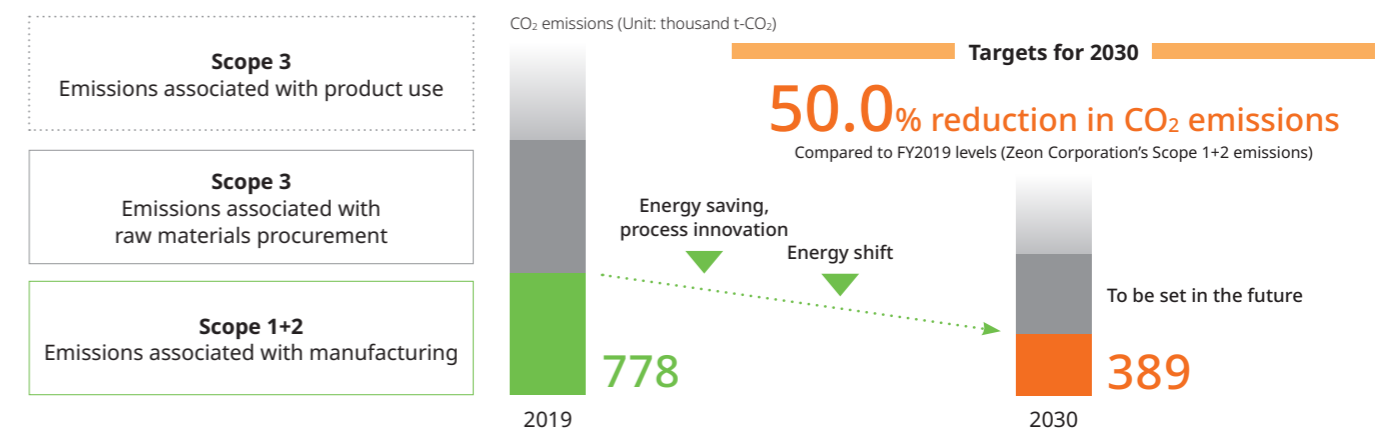


### Reducing Scope 1+2 emissions

Our strategy for reducing Scope 1+2 emissions combines three approaches: (1) **Energy saving**, (2) **Process innovation**, and (3) **Energy shift**. The anticipated reduction rates are **10% for energy saving, 10% for process innovation, and 80% for energy shift**, so the greatest benefits are expected to be achieved through the shift to new energy

sources. Energy shift involves switching over to renewable energy or to fuels that has a non-fossil certificate\* for the fuel used in boilers, etc.

\* Non-fossil certificate: With a non-fossil certificate, the greenhouse gases generated in all processes from extraction through to fuel usage are offset by carbon credits, so on a global scale, use of the fuel in question can be deemed to not generate CO<sub>2</sub> emissions.

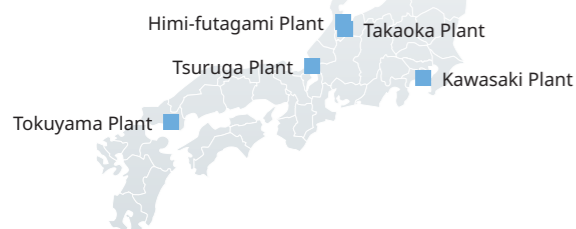


### Realizing the energy shift at five Zeon plants in Japan

In April 2022, we shifted over to purchasing only electric power generated from renewable sources\* for four of our production facilities in Japan (specifically, the Takaoka Plant, Himi-futagami Plant, Tsuruga Plant and Tokuyama Plant). In addition, the Tokuyama Plant purchased a Green Heat Certificate. Furthermore, carbon-neutral municipal gas has been adopted at the Takaoka Plant from April and at the Kawasaki Plant from August. Through these initiatives, Zeon expects to achieve a company-wide reduction in annual CO<sub>2</sub> emissions of around 120,000 t.

Other production facilities are also considering switching over to renewable energy. We are also examining the potential for making a similar shift at our overseas production locations.

\* Electric power generated from renewable sources: Electricity derived from renewable sources such as hydroelectric power, solar power or wind power.



### Adoption of internal carbon pricing

When it comes to reducing CO<sub>2</sub> emissions, up until now, we have implemented a series of measures that offered high cost-benefit performance. However, in order to achieve further emissions reductions in the future, it will no longer be enough to implement emissions reduction measures based on investment criteria, or on how long it will take to recoup the cost.

We are therefore adopting an internal carbon pricing (ICP) system, and for all capital investment projects we will be reflecting the amount of CO<sub>2</sub> emissions reductions that the project can achieve in our investment decisions, aiming to promote capital investment that contributes toward reducing CO<sub>2</sub> emissions.

**Internal carbon price:** 10,000 yen/t-CO<sub>2</sub>

**Scope of system application:** Capital investment that will lead to an increase or decrease in CO<sub>2</sub> emissions.

**Method of application:** The increase or decrease in CO<sub>2</sub> emissions accompanying the capital investment project in question will be converted into a monetary amount using the internal carbon price, and this will be taken into account when making the decision as to whether or not to invest in the project.

### R&D activity relating to carbon neutrality and the circular economy

In order to realize the circular economy, there is a need to use recyclable raw materials, or if products do have to be manufactured from hydrocarbons, then at least these products should be recyclable. Zeon Corporation is contributing toward

the realization of the circular economy, for example through R&D which has been selected for inclusion as a NEDO Green Innovation Fund Project.

\* The Green Innovation Fund Project system has been established by the Japanese government with the aim of bringing about a structural transformation of the energy sector and other industrial sectors, and accelerating innovation based on bold investment, to achieve the policy goal of reducing net greenhouse gas emissions to zero by 2050. Companies that undertake projects oriented toward these objectives can receive continued support over a period of 10 years at every stage from R&D through verification testing to social implementation.

### Making rubber from used tires and biomass raw material

Collaborative research by Zeon Corporation and Yokohama Rubber has achieved the development of two new technologies—a **highly-efficient method for making butadiene from ethanol**, and technology for **making butadiene and isoprene from biomass material**—with the aim of commercializing these technologies in the 2030s. Making butadiene and isoprene, which are the main raw materials for manufacturing synthetic rubber, from recyclable carbon resources such as used tires and biomass will help to enhance resource circulation in the tire and rubber industries, and will contribute toward the realization of carbon neutrality.

**manufacturing costs**, with the aim of commercializing this technology by the 2030s.

### Development of technology for recycling Cyclo Olefin Polymers (COP)

Cyclo Olefin Polymers (COP) have a wide range of uses in optical lenses, optical film, and healthcare and life sciences applications, and represent a high-growth business for Zeon. We have developed recycling technology that enables waste resin generated during the optical film production process to be recycled. Waste resin can now be recycled to create product of a similar quality to virgin resin, while maintaining high transparency and purity, which used to be a problem.

In October 2022, work began on the construction of a recycling facility within Zeon's Takaoka Plant which will have annual production capacity of 6,000 tons. The facility is expected to begin operation in August 2024.



Resin made using conventional recycling technology



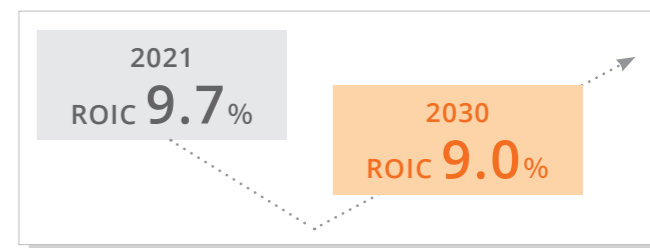
Resin made using Zeon's newly-developed recycling technology

## Strategy 2-1

### “Polishing up” existing businesses

By “polishing up” our existing businesses, we aim to achieve a return on invested capital (ROIC) of at least 9.0% by 2030.

While we posted an ROIC of 9.7% in FY2021, we expect to see a temporary fall in this figure due to aggressive investment, after which ROIC can be expected to rise again as the benefits from the investment make themselves felt.



### Strengthen COP and battery materials

Particularly with regard to specialty plastics and battery materials, two areas where there is steady high demand, we will be investing aggressively to strengthen productivity and resilience.

● **Strengthening our production capability for specialty plastics**  
**Mizushima Plant:** Production capacity increased by 4,600 tons per year (July 2021)

**Takaoka Plant:** Began work on construction of a recycling facility with production capacity of 6,000 tons per year (due to begin operation in August 2024)

● **Strengthening our production capability for battery materials**  
 It has been decided that a new production facility to manufacture binder for lithium-ion batteries will be established by Zeon Chemicals Asia Co., Ltd. (due to begin operation in 2024).

### Ensure the survival of existing SBUs

We have adopted a strategy of “Bolster our competitive edge by developing products and increasing production capacity,” to ensure that existing SBUs survive and flourish.

● **Increasing our production capacity for hydrogenated nitrile rubber**

We are also looking to develop new applications for lithium-ion batteries, and we are aiming to increase production capacity for hydrogenated nitrile rubber by around 10% (this additional capacity is scheduled to come on-line in 2023).

● **Adding new production lines for optical film**

We are positioning our original polymer design technology and sheet extrusion method as key strengths. We are adding a new production line, which is the world's largest retardation film production line (due to begin operation in October 2023).

● **Increasing our leaf alcohol production capacity**

Leaf alcohol is a material used to make synthetic fragrances that has a wide range of uses in products such as perfumes, shampoos, and soft drinks. Increasing production capacity by 400 tons per year (coming online in mid-2022).

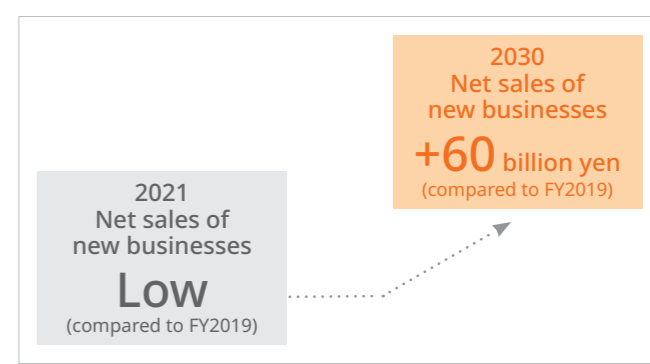
## Strategy 2-2

### “Exploring” new businesses

In exploring new areas, we are focusing on four key areas:

**healthcare and life sciences, CASE and MaaS, Telecommunications (5G/6G), and energy-saving.** We are aiming to increase our sales in these four areas by at least 60 billion yen by FY2030 (compared to FY2019).

Starting from FY2021, we are allocating a budget of around 100 billion yen over a ten-year period for investment in new business generation, and funds will be made available as appropriate within this framework for investment in new business exploration.



### Establishing a Wholly-owned Subsidiary in the U.S. as an Investment Firm

Zeon has established a wholly-owned subsidiary, **Zeon Ventures Inc., as an investment firm** in Silicon Valley, California. The new firm will be investing around US\$50 million in startups in four key areas that Zeon is focusing on.

Besides investment, Zeon will also be supporting the invested companies by sharing the Zeon Group's research resources and other assets such as sales channels. Through the growth of these invested enterprises, Zeon will be exploring new businesses.

It is anticipated that Zeon Ventures Inc. will be investing an

average of approximately US\$3 million each in around 15 firms, mainly in the U.S., over the next three years.

#### Scope of investment

##### Healthcare and life science

▶ Promoting health tech utilization (health devices, personalized medicine, support for new drug creation etc.)

##### CASE and MaaS

▶ Mobility, electric vehicles (EV), and batteries

##### Telecommunications (5G/6G)

▶ 5G and 6G implementation

##### Energy conservation

▶ Accelerating R&D (MI, quantum computing, etc.)

▶ Production technology automation (IoT, AI, robotics, etc.)

▶ Green specialty materials (alternative plastics, recyclable chemical products, etc.)

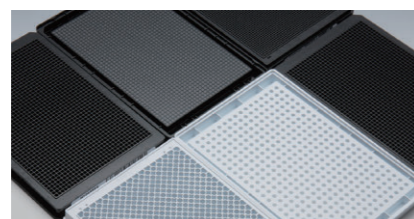
■ **Developing new businesses in the healthcare and life science area through M&A**

Zeon Corporation has acquired Aurora Microplates (head office: Montana, U.S.), a company that undertakes the manufacturing and sale of microplate, made from Cyclo Olefin Polymers (COP), which is used in biochemical analysis.

Aurora Microplates had for some time been manufacturing microplate made using Zeon's COP as the raw material, and its products have won a high reputation in Europe and North America for the high level of value-added that they provide.

Through this acquisition, it is anticipated that it will be possible to generate synergies in future product development, and Zeon is also aiming to make effective use of Aurora Microplates' customer network to develop the European and American healthcare and life sciences markets. We are aiming to achieve annual sales of around 7 billion yen for the same applications within five years' time.

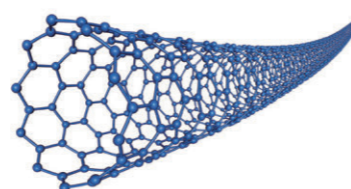
**Aurora**  
Microplates



■ **Enhancing the performance of lithium-ion batteries with carbon nanotube sheet**

As an anode material, lithium-metal offers the advantage of having very high energy density. However, its performance in terms of safety and lifespan can be problematic, and so normally the electrodes in lithium-ion batteries are made not from lithium-metal alone, but from an alloy such as lithium cobalt oxide. By using single-walled carbon nanotube sheet, Zeon has succeeded in developing technology that solves the problems which can occur with lithium-metal anodes when charging or discharging, thereby enhancing capacity, lifespan, charging/discharging rate and safety.

We are currently providing sample materials for the development of lithium-metal electrodes, with the aim of achieving commercialization by 2024.



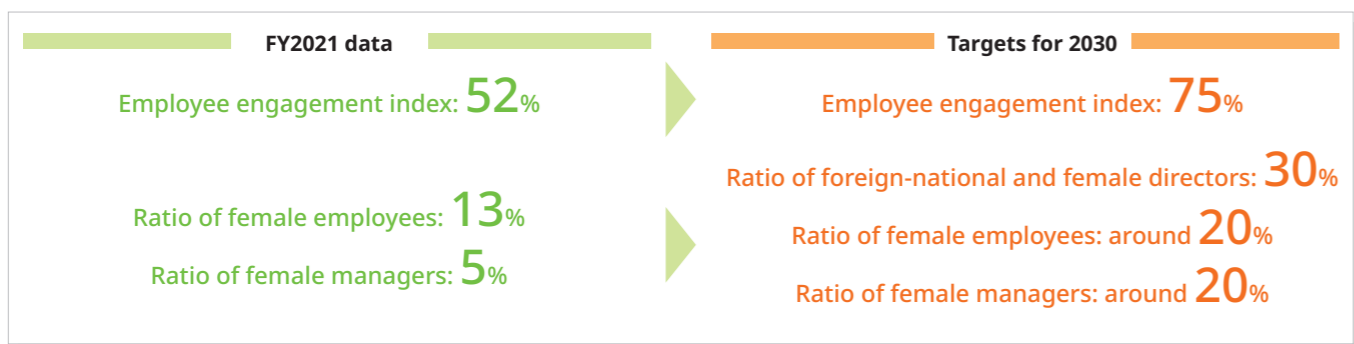
**Strategy 3**

**Work together to create "stages" to be active on**

The employee engagement survey that we conducted in 2021 showed that Zeon's employee engagement index stood at just 52%. From this survey, it became clear that the main issue was the environment in which employees work. By providing

employees with more options as to how to live their lives, we are laying the foundations for creating "stages" on which employees can be active and fulfil their potential.

\* The target values shown here for the female employee ratio and female manager ratio are the values announced in Zeon's Corporate Governance Report, published in November 2021; they are not newly-set targets.



■ **Main initiatives to lay the groundwork for building "stages" for new workstyles**

- Z-SQUARE head office renewal project (opened in April 2022)
- First female director appointed (June 2022)
- Started work on clarifying job descriptions
- Expanded the cafeteria plan
- Formulated a Declaration for Health and Productivity Management and Code of Conduct for Well-being (October 2021)
- Renamed our existing project as the DI&B Project
- Examined workstyle reform programs suitable for a wide range of working environments, including factory environments

For more details about our human resources strategy, see P.43.

**Creating a head office building where a wide range of views can be canvassed**

With the recent renewal of our head office building, a new issue that we faced was how to create opportunities for communication and collaboration, given the widespread adoption of teleworking as a formal system for which was put in place in April 2021.

To address this problem, we launched an Office Renewal Project, with project team members selected from a wide range of departments. After repeated discussions over a period of around one year regarding our corporate philosophy, company-wide strategies, our vision for the future and the desired new workstyles, it was decided that the new head office building would be transformed into a "central hub



**Z-SQUARE**

where people can form linkages with one another," in line with the concepts of "Let's connect" and "Let's polish up."

The new head office building's name, "Z-SQUARE," was chosen by asking employees to suggest appropriate names. The new head office building has been positioned as a "square" which will play a central role in realizing the things that are important to us as a company: "Let's try first," "Let's connect," and "Let's polish up." Our concept is for Z-SQUARE to serve as a multi-purpose facility where a wide range of people can meet, work, chat, hold discussions, refresh themselves and participate in special events.



**Issues that need to be discussed in the future**

Going forward, the three key issues that will need to be discussed at the level of senior management in order to realize our objectives for 2030 are as follows.

➔ **Adopting a system for certification of products that contribute toward the realization of the SDGs**

Zeon views the SDGs as representing society's expectations. By implementing measures that contribute toward the realization of the SDGs, we are aiming to achieve our Vision for 2030. To this end, we are considering the adoption of a certification system for

products that contribute toward the realization of the SDGs. We are proceeding with the examination of the key requirements for certification, emphasizing the objectivity and quantifiability that we will need in order to secure society's approval.

**SDGs targeted by Zeon**



➔ **Ensuring the diversity of the Board of Directors**

We have adopted a stance that emphasizes the need to enhance the diversity of the membership of the Board of Directors across the board, to ensure that the board has the skills needed to realize the Medium-Term Management Plan. From the perspective of maintaining and enhancing corporate

value over the medium to long term, we recognize the importance of diversity in terms of nationality and gender, and we are proceeding with the necessary selection and cultivation of talented individuals.

➔ **Clarifying our financial strategy**

We will be proceeding with a close examination of our financial strategy, with no areas being off-limits, including cash flow and strategic shareholdings.



# Business Strategy

## Message from the Director & Senior Corporate Officer Elastomers and Chemicals Business

**Kazuyoshi Matsuura**  
 Director & Senior Corporate Officer  
 Elastomers and Chemicals Business



Zeon's specialty rubber products are widely used in vehicles equipped with internal combustion engines. Demand for this type of vehicle is forecast to grow in the near term, particularly in the Asia region, but over the long term, demand is expected to gradually decline. By contrast, adoption of electric vehicles (EVs) is proceeding very rapidly.

In the period of more than 60 years that has elapsed since Zeon became the first company in Japan to successfully produce synthetic rubber, we have supported the development of the global automotive sector as a leading manufacturer of specialty rubbers. However, with the continuing trend toward the electrification of the power train, we now find ourselves facing a major transformation.

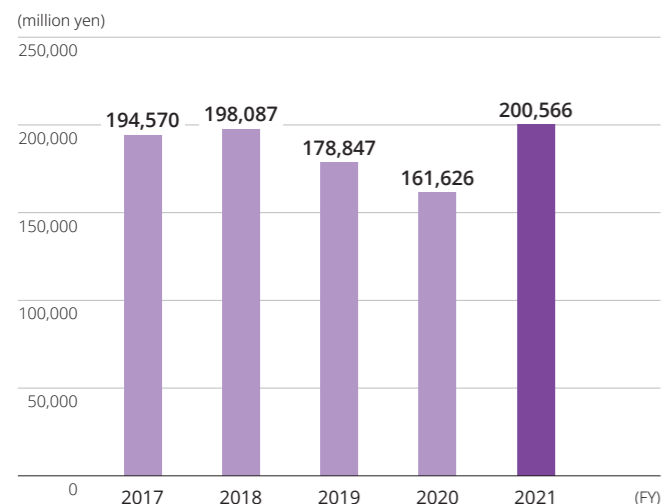
One of the group-wide strategies outlined in Zeon's Medium-Term Business Plan, looking ahead to the year 2030, is to "polish up" existing businesses. As part of our efforts in this regard, in April 2022 we conducted an organizational restructuring, with the Energy Materials Division, which handles battery materials, being placed under the Elastomers and Chemicals Business Headquarters, to which the Elastomers Division belongs.

Development of our company's battery materials has proceeded by integrating the polymer development technology cultivated by our synthetic rubber business with the dispersion technology developed in our synthetic latex business. There is also a high degree of affinity between the battery materials business and the elastomers business in terms of the fact that the automotive market is a key market for both businesses. Going forward, we will be working to enhance the synergy generated between these two businesses, including with respect to production locations, and we will be refining these two businesses, which are already very strong, to make them even stronger.

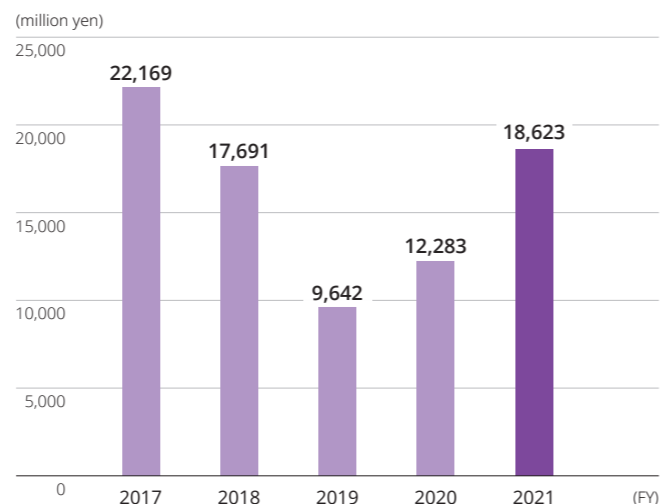
Customer needs and market demand are constantly changing. We will be working to differentiate ourselves through our products, our responsiveness to customers' requirements, and the ways in which we provide value to customers. By leveraging the combined capabilities of our Elastomers and Chemicals Business Headquarters, we will continue to make a contribution toward a "Sustainable Earth" and a "Safe and Comfortable Life for People."

### Elastomers Business

#### Net sales



#### Operating income



## Message from the Director & Corporate Officer Specialty Business

**Yuichiro Konishi**  
 Director & Corporate Officer  
 Specialty Business Division Manager  
 - Specialty Plastics



Zeon's Specialty Business handles materials and components that provide high value-added because of Zeon's outstanding polymer design and processing technology capabilities.

We put a particular focus on Cyclo Olefin Polymers (COP), optical film, and specialty chemical products, to "polish up" existing businesses as part of our Medium-Term Business Plan. The key issue facing us at present is to further strengthen these areas.

With COP, we are aiming to further expand the business by strengthening our production capacity to fully meet demand over the near term and medium term. We are prioritizing sales in market segments where COP is able to differentiate itself effectively from rival products in terms of product applications, and also allocating research resources to expand market share.

We are also expanding our production capacity for optical film to grow the business, while working to reduce costs for existing products and striving to improve profitability.

As regards specialty chemicals, we are seeking to enhance our system for supplying cyclopentanone (CPN), a cleaning agent used in semiconductor production, in response to the growth of the

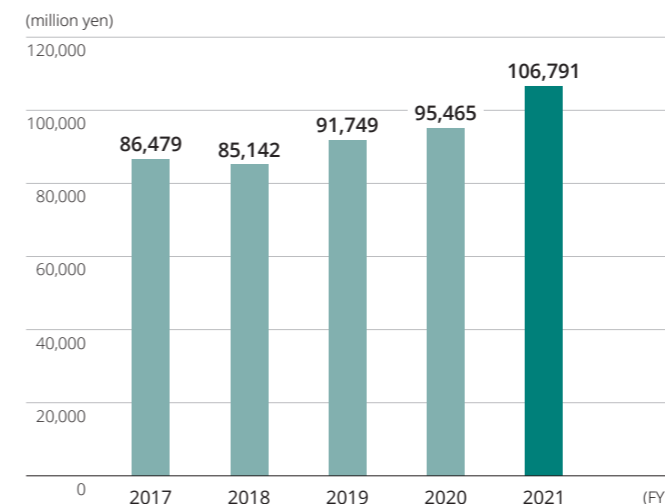
semiconductor market. In particular, by developing technology for recycling CPN, we are working to strengthen our supply capability using recycled CPN.

A further aspect of the Medium-Term Business Plan is to "explore" new businesses. As long-term strategies in this regard, we are focusing on launching and expanding sales of high thermal interface materials (TIM), carbon nanotube products, and COP film.

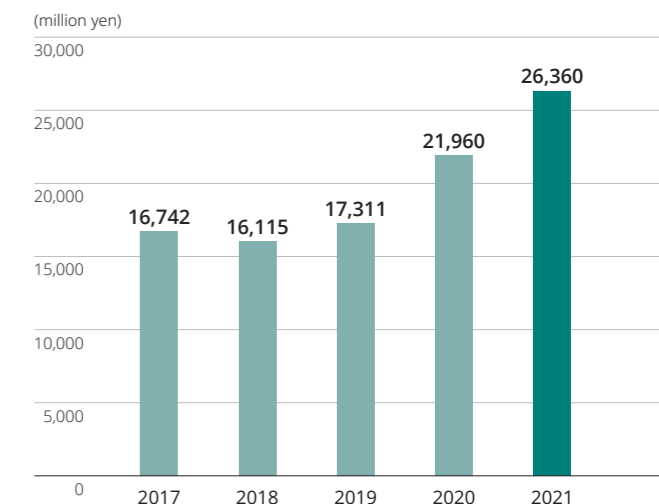
As semiconductor performance has improved, controlling the amount of heat generated by semiconductors has become more important. Our aim with TIM is to achieve a thorough solution to this problem. Regarding Zeon-developed carbon nanotubes, we are proceeding with the development of applications that make effective use of their strengths, and we are focusing on developing and building new markets. Film made from COP is already being used for displays, but we are now working on market development that exploits the advantages of COP film in new applications such as electronics and the life sciences, aiming to realize effective market entry.

### Specialty Material Business

#### Net sales



#### Operating income



## Individual Businesses—Issues and Plans

### Elastomers Business

Zeon's Elastomers Business handles synthetic rubber, the main uses for which are in vehicle tires and various other rubber products, and synthetic latex, which is used in rubber gloves, etc. We have a comprehensive line-up of different product categories and grades to meet a wide range of needs.



#### The competitive strengths of Zeon's products in relation to social issues and needs

Synthetic rubber is mainly used for automotive applications. With regard to automotive component applications, although demand for components for vehicles that use conventional internal combustion engines remains strong at present, over the medium- to long-term, with the shift toward EVs, the quantity of existing products that we will need to supply can be expected to fall, while at the same time it can be anticipated that there will be changes in the quality required for components intended for EVs.

As regards latex glove applications, overall demand has expanded because of the enhanced hygiene consciousness that has resulted from the continuing COVID-19 pandemic. Although the temporary, sudden spike in demand that COVID-19 caused has eased off, going forward, we can expect to see an increase in demand for gloves that do not cause an allergic reaction when worn.

At the same time, with rising environmental awareness, there are growing demands for products to demonstrate more sustainability-consciousness, in terms of reducing the CO<sub>2</sub> emissions generated in raw materials procurement and in production processes, and in terms of resource recycling, etc. When it comes to responding to these kinds of societal issues and needs, I believe that the competitive advantage of the Elastomers Business lies in the following areas.

- ▶ Global brand awareness based on high quality standards (customer recognition)
- ▶ A comprehensive C<sub>4</sub> fraction product line-up, with products that are cost-competitive as a result of stable, high production capacity utilization
- ▶ Adoption of CO<sub>2</sub> emissions reduction technology in our own production processes

- ▶ Ability to provide energy usage reduction proposals for customers' processes based on our high level of polymer know-how

#### Future issues and initiatives

The main risks and issues facing the Elastomers Business include the supply chain disruption and rising logistics costs resulting from the COVID-19 pandemic and the situation in the Ukraine, and the need to respond to requests for localized production.

There is also the falling demand for crude oil that has accompanied the shift toward new energy sources in order to achieve carbon neutrality. With naphtha production volume falling, the procurement costs for the C<sub>4</sub> and C<sub>5</sub> fractions which serve as Zeon's raw materials have risen, and there are concerns about procurement difficulties. At the same time, there is a risk that the adoption of more environmentally-friendly products and of new recycling technology may lead to increased costs.

We are positioning these risks and issues as opportunities to create new value, and we are proceeding with the following measures.

- ▶ Developing new product applications in response to the trend toward EVs
- ▶ Formulating solutions for optimized production systems in response to supply chain disruption and raw materials procurement difficulties
- ▶ Strengthening production capacity for products where we are particularly strong (such as hydrogenated nitrile rubber)
- ▶ Development of technologies aimed at the realization of carbon neutrality (including twin-shaft drying, eliminating the need for secondary vulcanization and development of recycling systems for tires.  
 ☞ For more details, see P.27, bio-rubber development)

### Chemicals Business

Zeon's Chemicals Business has developed products that include petroleum resin and thermoplastic elastomers, which are used as raw materials for adhesive tape, labels and adhesives, as well as polymerized toner, which is used in printers and multifunction office machines.



#### Chemicals Business Strategy

In order to realize our vision for 2030, we are targeting our activities at four market areas: the three existing markets of labels, special adhesive tape and diapers, and the development of new markets.

The strategies that we have formulated for addressing these four markets are: ① Realizing various different types of adhesive solutions by offering proposals for new products and services that make effective use of Zeon's product design and adhesive compounding and design knowhow, and of the special properties of Zeon's original Asymmetric SIS, for individual customers and for the supply chain as a whole; ② With respect to new markets, making the best use of the special characteristics of Zeon products, which are "user-friendly and soft," to contribute toward making people's lives more comfortable and more convenient.

#### Initiatives in FY2022

Our strategic policy for FY2022 is "Let us all work together to overcome the challenges presented by the changing business environment and make a positive contribution to society by promoting new products and new business models that help to realize the SDGs, and by achieving our financial objectives for this fiscal year." In order to generate new business with a supply chain that extends from raw materials through to exported products, we are formulating hypotheses regarding product functions and business models that can help to reduce the "loss" to society in terms of logistics and energy, and we are proceeding with Proof of Concept (PoC\*) testing.

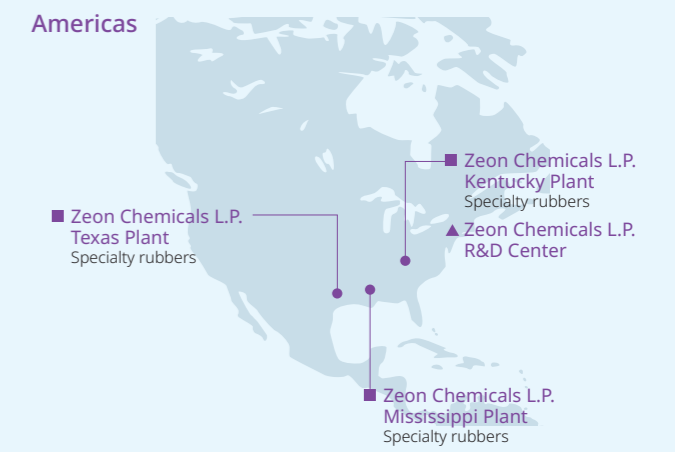
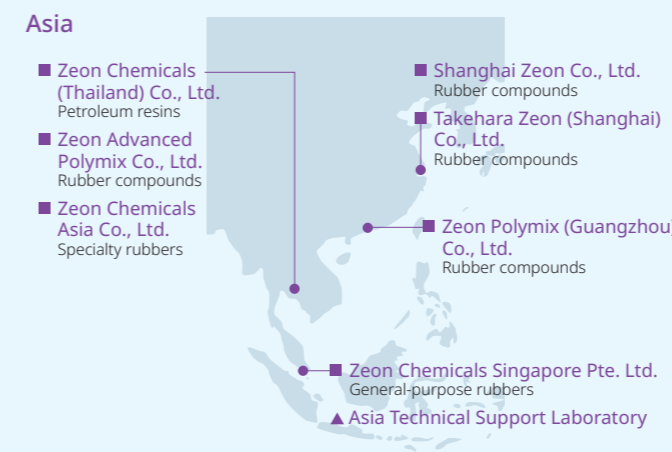
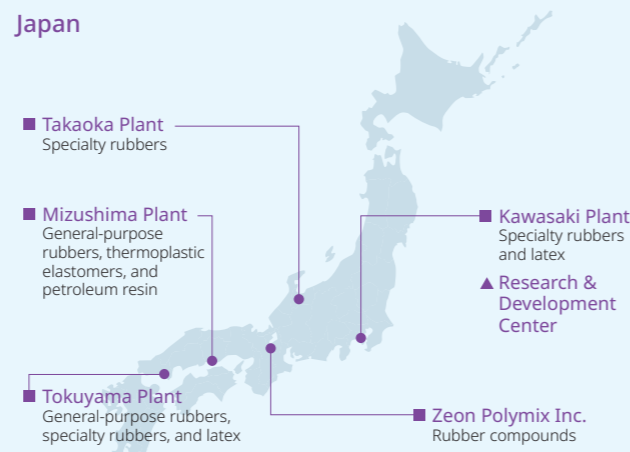
With regard to our existing label and special tape markets, our watchword is to "contribute to society through differentiated products such as Asymmetric SIS," and we will meet customers' needs with great attention to detail through down-to-earth daily sales activities and technical service provision.

The Medium-Term Business Plan emphasizes the concepts of "Let's try first," "Let's connect," and "Let's polish up." Rather than allowing ourselves to be constrained by existing technologies and facilities, or limiting ourselves to those that we possess in-house, we need to pool our wisdom with that of many external partners, so that we can begin to absorb new technologies and knowhow from all around us.

\* Proof of Concept: Implementing in-depth testing to confirm whether a new idea is actually viable, before it is implemented.

#### Production and R&D Locations of Zeon's Elastomers Business and Chemicals Business

- Production location
- ▲ R&D location



## Individual Businesses—Issues and Plans

### Specialty Plastics & Components Business

Zeon provides the Cyclo Olefin Polymers (COP) that we developed independently for use as a material in products such as optical lenses and medical devices. We also process COP to develop high-functionality, high-value-added optical film, and this has grown to become a core business for our company.



#### “Polishing up” existing businesses

COP is mainly sold for use in optical applications and medical applications. Our first priority is to grow our market share in these two market segments, with the ultimate aim of having Zeon products become the de facto market standard.

For optical applications, we are positioning medium- and large-sized lenses (such as lenses for AR/VR and security camera), for which Zeon's COP is particularly well-suited, as important applications, and we are aiming to expand our market share in this area. With regard to small lenses (such as those used for smartphone cameras), we are developing new grades of COP products and bringing them onto the market, with the goal of further increasing our market share over the medium- to long-term.

In terms of medical applications, we are working to expand our market share, focusing mainly on pre-filled syringes.

We have also developed COP recycling technology, and we have begun construction of a recycling plant, aiming to begin commercial operation by August 2024. [For more details, see P.27.](#)

To respond to an anticipated increase in demand for optical film made from COP over the medium- to long-term, we are working to increase our production capacity in this area, aiming to ramp up production in October 2023.

#### “Exploring” new businesses

In regard to the semiconductor market, particularly in relation to silicon wafer container applications, besides working actively to increase our market share in our existing product grades, we are also aiming to have our products become the de facto market standard.

As regards medical applications, in order to achieve a further increase in sales, by developing new grades of product and bringing them onto the market, we are aiming to boost our market share in terms of vials and containers for use in biomedicine manufacturing, market segments which are expected to grow in the future.

In addition, as a vertical integration strategy, we are working to enter the life sciences sector (including microplate and microfluidic devices) not only with sales of resin products, but also with finished COP products, such as injection molding products and films.

In exploring new businesses and new applications, besides developing our own original technologies, we are also working actively to adopt technologies from third parties, and we are also positioning M&A as an important strategy.

#### Specialty plastics

Increased production capacity  
– Work completed in July 2021

**+4,600 tons**



Mizushima Plant



#### Specialty plastics

Established a recycling plant  
– Due to start operation in August 2024

**+6,000 tons**



Takaoka Plant

#### Optical films

World's first plant to adopt the sheet extrusion process

Increased production capacity  
– Due to start operation in October 2023

**+50 million m<sup>2</sup>**

Production capacity:  
Increased to 269 million m<sup>2</sup> (year)



Tsuruga Plant

### Battery Materials Business

In the Battery Materials Business, we provide anode binder and cathode binder for lithium-ion batteries (LiB), as well as functional layer materials and battery seal materials. While there has been rapid growth in demand for applications relating to plug-in hybrid vehicles (PHVs) and other types of EVs, we are also developing applications for PCs and mobile devices, as well as for energy storage systems (ESSs) for use with renewable energy.

#### The competitive strengths of Zeon's products

With strengths that include the polymer design and manufacturing technology that Zeon has cultivated over the years, as well as the battery evaluation and analysis technology that we worked to strengthen after LiBs began to appear on the market, Zeon's binder materials have played an important role in supporting the increased functionality of LiBs.

#### Future issues and initiatives

In FY2021, the EV market benefited from policy support intended to help realize carbon neutrality, and there was rapid growth, particularly in Europe and China. LiBs are the “heart” of an EV, and the battery manufacturers are proceeding with development work aimed at realizing rapid charging, long product lifespan, high capacity and enhanced safety, with reasonable production costs.

Zeon recognizes the need to secure long-term demand in the LiB market, which is expected to continue growing strongly in the future, and we are working to expand and strengthen our business foundations in this area.

With regard to new product development, we are working to strengthen development of water-based binders, an area where

Zeon excels, to secure and maintain high market share. Besides binder for cathode and anode active material, and binder for heat-resistant separator layer, we are also rolling out new products such as AFL<sup>®</sup>, a functional layer material that joins the electrodes to the separator, and we are working to replace solvents with water in production processes. We are also proceeding with the development of unique technologies in areas other than binder material, and verification testing is underway at the large-scale battery level. In addition to “polishing up” our existing binder business, we are “exploring” the potential for new businesses in the LiB market, and we continue to develop new product proposals aimed at enhancing battery performance.

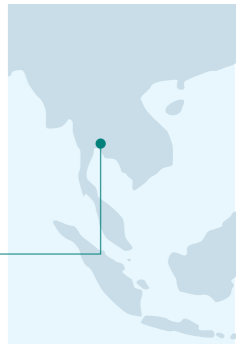
On the manufacturing side, we are responding to the growing demand for localized production, and we are working to put in place a truly global supply system. One element in this strategy is the decision to invest in the establishment of a battery binder production facility at Zeon Chemical Asia Co., Ltd., which is scheduled to start production in 2024. Additionally, we are proceeding with efforts to increase the production capacity of our production facilities in Japan.

#### Battery materials

Decided to establish a new production facility to make binder for use in LiB. Preparations are underway to begin production in 2024.



Zeon Chemicals Asia Co., Ltd.



### Specialty Chemical Products Business

Zeon's Specialty Chemical Products Business is active on the global stage with unique fine chemical products in two core areas—aroma chemicals and specialty chemicals—which grew out of integrated utilization of C<sub>5</sub> fractions.

#### The competitive strengths of Zeon's products in relation to social issues and needs

Risks affecting the Business as a whole include increased logistics and raw materials procurement risk as a result of the current geopolitical instability, and the growing demand for product recycling deriving from the increase in societal initiatives aimed at realizing the circular economy. Given these circumstances, it can be anticipated that the aroma chemicals business will continue to see a steady increase in demand for fragrance and flavoring applications, accompanying the population and GDP growth in emerging economies. With regard to specialty solvents, a generational shift is underway in the solvent products used for chemical synthesis processes, as a result of increased global environmental awareness, and it is anticipated that there will be growing demand

for more environmentally-friendly solvents.

Factors that can help to enhance the competitive strength of our company's products in relation to these needs include the cost competitiveness deriving from our project to develop more closely integrated use of C<sub>5</sub> fractions, as well as other factors based on this, such as our strong global brand (i.e., high name recognition among potential customers) deriving from our ability to provide a stable supply of high-quality synthetic chemicals, and our extensive range of five-membered ring based solvents (including Cyclopentanone and Cyclopentyl Methyl Ether) in the specialty solvent segment.

#### Future issues and initiatives

Issues that we will face in this business going forward include the need to strengthen production capacity in response to growing demand, and the need to enhance measures to help realize the circular economy and carbon neutrality. In the aroma chemicals business, we are working to increase our leaf alcohol production capacity, with the new production facility having been completed in July 2022. In the specialty solvents segment, we are working to increase demand through sales promotion activities that emphasize how environmentally-friendly Cyclopentyl Methyl Ether is.

## Individual Businesses—Issues and Plans

### Electronic Materials Business

In Zeon's Electronic Materials Business, we have rolled out four product categories: coating insulation materials, photoresists, electron beam resist, and etching agents (C<sub>5</sub>F<sub>8</sub>). The electronic materials sector (which includes the semiconductor market) is expected to see steady market growth in the future, across a wide range of applications that include not only conventional consumer applications such as PCs, but also in-vehicle devices, etc. Given this market environment, in order to realize the goals of the Medium-Term Business Plan, we are addressing the following issues.

#### “Polishing up” existing businesses

While continuing to expand the market for our four main product categories, we will also be working actively to develop and begin production of new products, which in turn will lead to continued growth. For example, our ZEOCOAT® coating insulation material has Zeon's own COP as the main base material, and we are already developing the Japanese and overseas markets for display applications such as touch sensors. By making effective use of COP's lower water absorption and its electrical properties, we will be working to develop new applications in the high-speed communications sector.

Our ZEP series positive electron beam (EB) resist is a product specially developed for use in next-generation electronic components. As ZEP is a main-chain scission type resist, it allows holes to be cut with more precision, and because the reaction is a simple one, there are few defects. Volume production of the ZEP series has already begun, and we have plans to develop applications that include compound semiconductors for 5G mobile communications.

#### “Exploring” new businesses

We are also focusing on the development of new products, and expanding sales of such products. For example, we are working to expand sales of our high TIM, which were developed by making effective use of the elastomer technology that Zeon has accumulated. [For more details, see P.4.](#) By comparison with conventional grease-based thermal interface materials, Zeon's TIM products excel in terms of having good thermal conductivity (38W/mK for standard models) in the Z axis, high durability, and superior workability. Besides the high-output server market, we are also working to develop the market for materials for thermal interface solutions that address the problems caused by the trend for devices to get smaller, and the trend toward high-speed communications.

In addition, we are utilizing Zeon's original polymer technology to proactively develop product proposals for the semiconductor market, where the process of miniaturization is expected to continue in the future.

### Carbon Nanotubes (CNT) Business

Carbon nanotubes (CNT) are a material invented in Japan that are expected to have a wide range of applications, because of their light weight, high strength, and good electrical and thermal conductivity.

#### The competitive strengths of Zeon's products

Zeon's ZEONANO® carbon nanotube products are single-walled carbon nanotube (SWCNT) products manufactured using the revolutionary Super Growth Method discovered by Japan's National Institute of Advanced Industrial Science and Technology (AIST). They offer several advantages, including large surface area, length, and high purity, and we anticipate developing a wide range of applications for them in the energy sector and electronics sector.

#### FY2022 initiatives

Zeon is combining SWCNT with various other materials to develop materials and products with new properties. We have already commercialized conductive silicon rubber for medical use, which integrates SWCNT with silicone rubber. We are proactively conducting joint research with a number of companies and research institutes. By making effective use of the high purity that characterizes Zeon's SWCNT, we are developing hybrid materials such as clean, anti-static polytetrafluoroethylene (PTFE) and materials for use in electricity storage devices (such as lithium-ion batteries). [For more details, see P.29.](#)

In addition, our research aimed at the commercialization of non-volatile memory (NRAM) that uses carbon nanotubes has been

adopted by NEDO as a fund project. We are aiming to establish NRAM as an alternative to DRAM that offers low power consumption, higher capacity and lower cost, with the goal of achieving social implementation in the 2030s. We expect NRAM to make a positive contribution toward the development of carbon-neutral data centers and toward the realization of a sustainable society.

Besides manufacturing and selling SWCNT-related products, we are also working actively to ensure society's acceptance of carbon nanotubes by evaluating product safety and biodegradability and disclosing this information.

#### SWCNT safety information

<https://www.zeon.co.jp/en/business/enterprise/nanotube/>



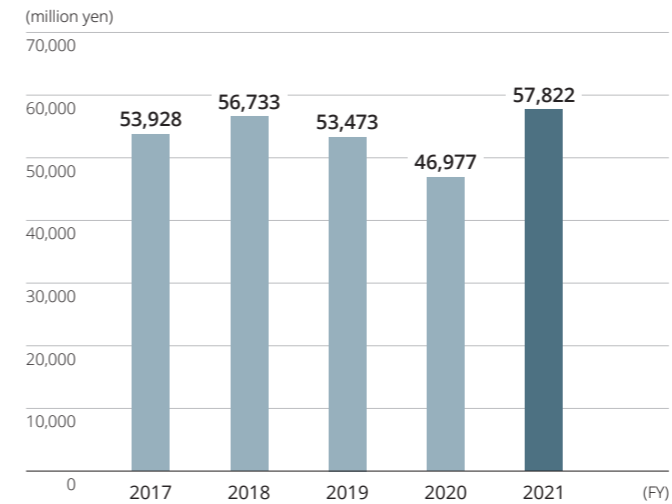
A wearable device that combines silicon rubber with CNT

### Other Businesses

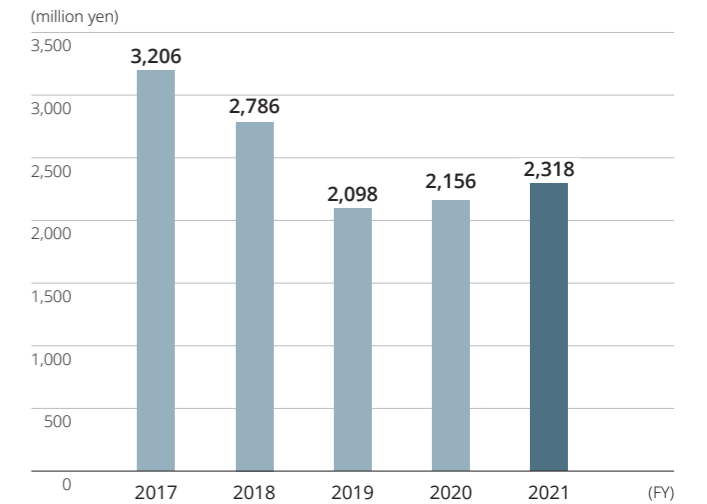
Those business segments that do not fall under either the Elastomers Business or the Specialty Material Business are classed as Other Businesses. These include, for example, RIM compounds, RIM moldings, coating materials, packaging materials, building materials, engineering services and trading. These businesses are mainly handled by group companies.

#### All other businesses

##### Net sales



##### Operating income



### Zeon North

Zeon North Co., Ltd. has its head office in Takaoka City, Toyama Prefecture, and has seven business locations throughout Japan. Its core business area is engineering, which accounts for over 70% of total annual sales.

Zeon North's engineering business include construction of various types of plant facilities, air conditioning and sewage system installation, general building construction, etc. In recent years, Zeon North has built up an impressive track record with aluminum structures, with a particular focus on aluminum roofing. More specifically, Zeon North installs roofs and covers to protect water storage facilities such as water purification plants from threats such as terrorist attacks involving contaminants, and deterioration in water quality caused by algae. The need for covers is becoming steadily more apparent, and it is anticipated that demand will continue to grow throughout Japan in the future. Aluminum is durable but lightweight, and does not rust even when it comes into contact with chlorinated drinking water; it is also easy to recycle and reuse. Aluminum can thus contribute toward the realization of SDGs No. 6 “Clear water and sanitation” and No. 12 “Responsible consumption and production.”

Zeon North has also undertaken the design and construction of a rotary-type melting furnace that can be used to melt and recycle aluminum that has been used in vehicles or electrical equipment; Zeon North leads the industry with this original technology. Zeon North's melting furnaces make it possible for nearly 100% of used aluminum to be recycled, and will contribute toward the realization of the carbon neutral society.

Zeon North has also established a trading business as a second main business area, and is developing a unique product lineup that includes the sale of Zeon North's original “Handnutter®” safety tools and “Flangeopener®”, as well as the sale and installa-

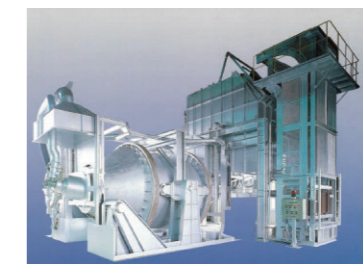
tion of the company's coating agents, which provide high durability and superior chemical resistance.

Zeon North's third main business area is the environmental analysis business. In areas that include waste water, air, noise and vibration testing, as well as operating environment testing to support operators' health and safety compliance, Zeon North has a large team of operatives with professional certification, who are contributing toward safeguarding the environment and workers' health.

Going forward, Zeon North will continue to develop innovative technologies, providing high-quality services that customers can trust. Zeon North aims to be a vigorous company that makes an even bigger contribution toward the realization of carbon neutrality and the SDGs, which is appreciated by society, and which is full of highly-motivated, healthy employees.



Aluminum cover installed at a water purification plant



Rotary-type melting furnace for aluminum

# Research and Development

Zeon's Research and Development Center (R&D Center) is responsible for undertaking the Zeon Group's research and development activities. One aspect of our 2030 Vision is to "provide products and services indispensable to society," and to realize this goal, we are proceeding with R&D to "polish up existing businesses" and "explore new businesses."



**Tetsuya Toyoshima**  
 Director & Senior Corporate Officer  
 Research & Development Division Manager - Research & Development Center

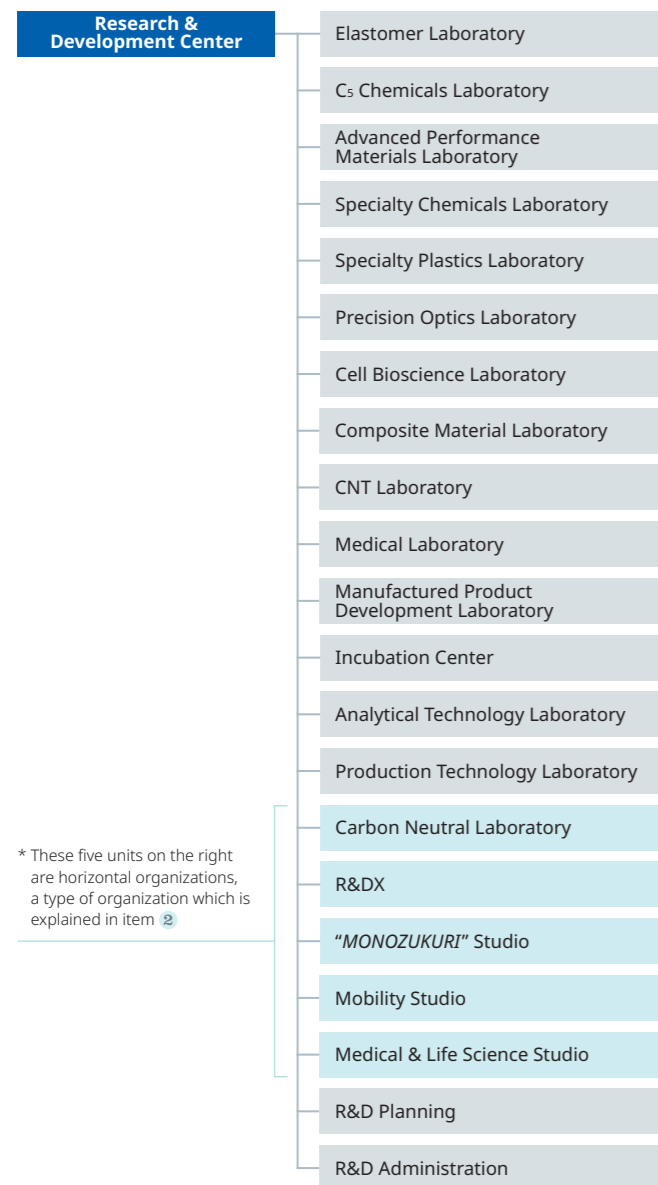
## Aiming to Continue Creating Innovative Products and Services

In order to realize Zeon Corporation's corporate philosophy of "Contributing to the preservation of the Earth and the prosperity of the human race," the R&D Headquarters mission is to provide, without interruption, innovative products and services that make a positive contribution toward a "Sustainable Earth" and a "Safe and comfortable life for people." The R&D strategy that we are following to achieve this goal can be explained in terms of four aspects: Key R&D fields, organizational structure, promotion methods, and effective utilization of human resources.

- 1 Key R&D fields:** Zeon has identified Medical & Life Sciences, Mobility, Telecommunications, and the Circular Economy, as areas where our company can effectively exercise its strengths to help realize the SDGs.
- 2 Organizational structure:** In 2021-2022, we have established a number of horizontal, inter-departmental organizations that extend over all of the units under the R&D Center, with the aim of generating new research topics in key fields. These new organizations have researchers from multiple different laboratories assigned to them concurrently with the researchers' regular positions, working collaboratively to explore research topics in key R&D fields. Researchers from diverse backgrounds spur one another on to generate innovative new products and services through cross-departmental collaboration.
- 3 Promotion methods:** The process by which a research topic progresses toward social implementation contains multiple steps, from the initial idea through prototype creation, proof of concept (POC) with the customer, to final implementation. By changing the management methods used at each stage flexibly, from giving researchers complete freedom to come up with initial ideas, through to rigorous progress management after customer POC has been completed, we are able to ensure that good ideas are brought to social implementation smoothly and efficiently.
- 4 Effective utilization of human resources:** Organizations and frameworks are the strategies through which the creation of original value takes place, while the key element in actually creating value is people. To enable researchers to fulfill their potential in a self-directed manner, we have increased the range of options available to help them achieve personal growth, for example through the provision of "double-track career paths," and by recruiting members for horizontal, cross-departmental teams. We have also been working to invigorate intra-departmental communication through one-on-one interviews and suggestion boxes.

Going forward, we will be taking on the challenge of realizing a digital transformation (DX) of R&D through flexible coordination, and by controlling R&D processes in digital space. By transforming ourselves, we can continue to be an organization that provides an unbroken stream of innovative new products and services in the future.

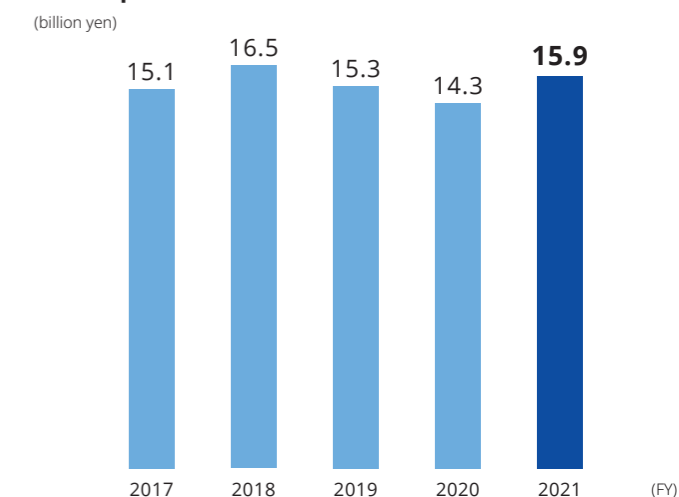
### R&D Structure



## Our Basic Philosophy for R&D

"Contribute to society by creating world-leading businesses through developing unique technologies in the specific fields in which Zeon excels."

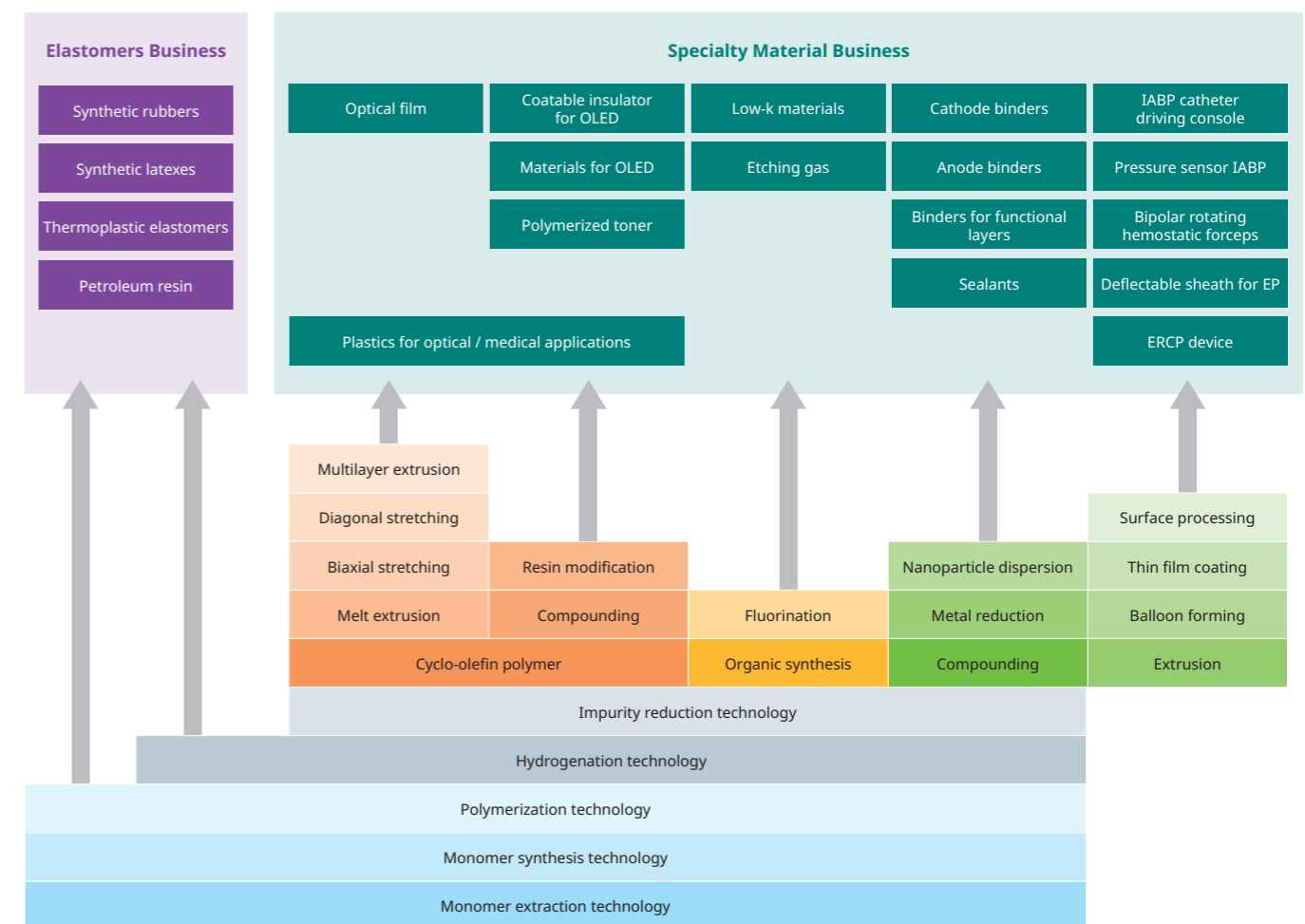
### R&D expenses



### Zeon's R&D Strengths

Building on our technologies, namely monomer extraction, monomer synthesis, and polymerization, we have developed core technologies such as hydrogenation and impurity reduction. We consistently develop various unique technologies in line with the ongoing expansion of our business.

### Core Technologies and Products



## R&D that Utilizes Digital Technology Effectively

The R&DX office was launched in June 2021 as Zeon's first large-scale, horizontal, inter-departmental R&D organization, with one staff member assigned to it on a full-time basis, and another 68 personnel assigned to the office concurrently with their regular positions.

This new organization is promoting the putting in place of the infrastructure needed for effective utilization of data, with the aim of "Utilizing digital technology effectively to enhance the quantity and quality of experiments."

Taking "cohesion and insight" as the foundation, the office is putting in place the necessary educational infrastructure, while also promoting "agile" product development through a

repeated process of limited-scope prototype building followed by verification.

This methodology, which is unique to Zeon, has amazed and impressed numerous IT vendors, and Zeon has received requests for collaboration from several companies.

Going forward, the R&DX office will continue to promote a shift toward data-driven R&D, serving as a hub for group-wide coordination, exploring opportunities for expanding the approach to include the entire supply chain, and striving to enhance Zeon's corporate value through the generation of new products and new businesses.

### Close-up 1 Conducting R&D Close to Production Sites

Zeon has around 400 researchers. In addition to the Kawasaki area in Kanagawa Prefecture, laboratories are near each plant in Takaoka, Tokuyama, and Mizushima. By placing our R&D organizations close to our production sites, Zeon aims to unify its manufacturing and technology. We have also established a flexible and efficient R&D system by enabling speedy implementation of lab-scale prototypes.

### Close-up 2 R&D Hearings

Each laboratory holds a hearing on research once a month to confirm the feasibility and competitive advantage of research themes based on Zeon's medium- to long-term strategy. Each research hearing is attended by the president and other members of management, who receive a progress report on development projects directly from the researchers. Consistency between its management and R&D strategies is another characteristic of the Zeon Group's R&D.

## Intellectual Property Strategy

The new products that are born from Zeon's technology platform, which is founded on original technologies, need to be matched to an expanding supply chain. With a closely integrated business strategy, research strategy and intellectual property (IP) strategy, we work to secure and effectively utilize patents, design rights and trademarks. We have also established a dedicated unit focused on the IP landscape. While aiming to adopt and expand the use of a wide range of IP-related tools, we are also cultivating the human resources needed to make effective use of them.

In December 2021, in order to be able to make effective

use of patent- and other IP-related analysis in management decision-making, we began operation of a new Technology Trends Predictive Analysis System that utilizes IBM's Watson Discovery platform for hybrid search and text-analytics. Utilization of this system makes it possible to undertake efficient, comprehensive analysis of more than 100,000 items of complex patent data, enabling us to rapidly, accurately predict changes in the market and in demand, and technology trends, thereby supporting our goal of identifying ideas that will lead to *monozukuri* manufacturing through which we can continue contributing toward the realization of a sustainable society.



## Overview of R&D Results

### A Researcher from Zeon's Analytical Technology Laboratory has Received a Fellowship Award from the Society of Polymer Science, Japan (SPSJ)

**Making a major contribution toward the development and widespread adoption of computational polymer science**

In 2021, Takashi Honda, a researcher with Zeon Corporation's Analytical Technology Laboratory, was presented with the 2021 Fellowship Award by the SPSJ. The award was in recognition of his contribution to the development of computing methods (particularly mean field methods) and to polymer science. It should be noted that this was the first time that a serving Zeon researcher had been a recipient of the SPSJ's Fellowship Award.

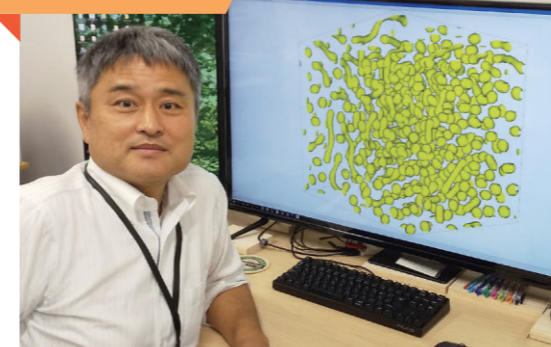
The SPSJ is an academic association with more than 10,000 members. A Public Interest Incorporated Association, it was established with the aim of promoting progress in polymer science and technology—both fundamental research and practical applications—contributing to the development of academic studies in this area, and fostering the cultivation of the human resources needed to achieve these goals. Zeon is a corporate member of the SPSJ, and has made an effort to encourage research on polymer science, for example through the creation of the SPSJ Award for the Outstanding Paper in Polymer Journal sponsored by Zeon, which is presented to young researchers who have had outstanding papers published in the SPSJ's Polymer Journal. The SPSJ's Fellowship Award was created in 2007. It

is presented to full members of the SPSJ who have made a significant contribution to the development of polymer science or technology, and who are expected to continue making a valuable contribution in the future.

Takashi Honda has participated in national research projects while working at Zeon, and has achieved many research results, including the development of the Simulation Utilities for Soft and Hard Interfaces (SUSHI) program for the Self-Consistent Field (SCF) approach, which falls under the mean fields method (a polymer density functional theory), a simulation method used in polymer science. All of his research results have been published in the form of easy-to-use software functions, and SUSHI and the mean fields method are now widely used by research institutes and corporate researchers both in Japan and overseas.

Recently, Takashi Honda has also achieved impressive results in terms of integrating aspects of data science such as machine learning with simulation technology, and the Fellowship Award represents recognition of his contribution through continued, ground-breaking research using computer science.

### COMMENT



"I was honored to have received the 2021 Fellowship Award from SPSJ for "contributing to the development of computing methods, particularly mean field methods, and to polymer science." This was in recognition of my development of the SUSHI simulator, which is able to handle the phase separation phenomenon in polymers, as part of the OCTA project (a NEDO project which was conducted in 1998–2002 at Nagoya University), and subsequent research on polymer materials that made use of SUSHI. I think we can also say that this award represented recognition of Zeon's unstinting investment in the development of advanced technology and its initiatives in the area of CSR."

Takashi Honda  
Analytical Technology Laboratory

### Other Research Reports by Zeon Researchers Published in FY2021 (selected reports)

Date	Title	Journal
April 2021	Development of Silicon Rubber Containing Single-Walled Carbon Nanotubes, for Medical Use	Polymer TECH, Vol. 9 <a href="https://www.gomutimes.co.jp/?p=163141">https://www.gomutimes.co.jp/?p=163141</a>
June 2021	Development of O-Ring Materials with Superior Heat Resistance	The Tribology, June 2021 issue <a href="https://tribology.press-shinjusha.co.jp/backnumber2021/">https://tribology.press-shinjusha.co.jp/backnumber2021/</a>
August 2021	Joint Value Creation Through Collaboration Between Business Enterprises is Speeding up the Adoption of Carbon Nanotubes in the Medical Market—A Case Study of the Application of Carbon Nanotubes for Wearable Devices for Medical Use	Japan Energy & Technology Intelligence (JETI), August 2021 issue <a href="https://www.center-net.jp/jeti/archives/data/2108.html">https://www.center-net.jp/jeti/archives/data/2108.html</a>
September 2021	The Properties and Applications of Heat-resistant Cyclo Olefin Polymer	Material Stage (monthly journal published by the Technical Information Institute), September 2021 issue <a href="https://www.gijutu.co.jp/doc/magazine/m_2021_09.htm">https://www.gijutu.co.jp/doc/magazine/m_2021_09.htm</a>
September–October 2021	Development of Functional Binder Technology for Lithium-ion Batteries	Clean Technology, September 2021 <a href="https://www.fujisan.co.jp/product/1281679691/b/2158607/">https://www.fujisan.co.jp/product/1281679691/b/2158607/</a> Function & Materials (published by CMC Publishing), October 2021 issue <a href="https://www.cmcbooks.co.jp/products/detail.php?product_id=8435">https://www.cmcbooks.co.jp/products/detail.php?product_id=8435</a>
March 2022	Global Cooperation on Polymers, Present and Future	Kobunshi (High Polymers, Japan) (published by the Society of Polymer Science, Japan), March 2022 issue <a href="https://main.spsj.or.jp/c5/kobunshi/kobu2022/kobu2203.html">https://main.spsj.or.jp/c5/kobunshi/kobu2022/kobu2203.html</a>

For the latest information about Zeon's R&D activity, please visit:

<https://www.zeon.co.jp/en/rd/>

# Human Resources Strategy



**Yoshiyuki Sone**  
Director & Senior Corporate Officer  
Administration

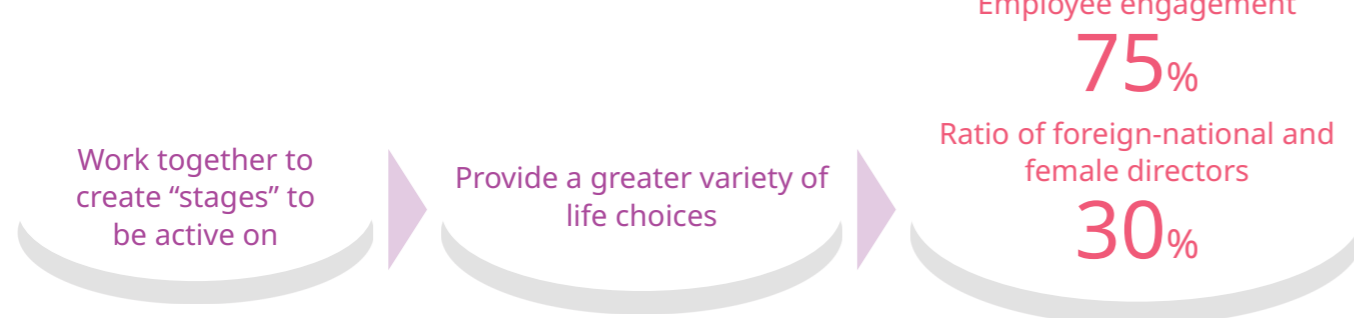
Ever since Zeon Corporation was founded in 1950, we have carried out our business activities in line with our corporate mission: "Contributing to the preservation of the Earth and the prosperity of the human race."

In the past, we have focused on safeguarding employees' jobs and have relied on a handful of outstanding employees to enhance our competitiveness. However, looking back at the previous Medium-Term Business Plan, it was clear that there were issues in terms of needing to secure the human resources required to underpin business expansion, and in terms of creating a working environment that would allow us to make effective use of diverse human resources.

Based on this analysis, in the current Medium-Term Business Plan (implementation of which began in FY2021), we adopted a human resources strategy of "Work together to create 'stages' to be active on" as a group-wide strategy, with the aim of realizing our Vision for 2030, which is to "a company that lives up to societal expectations and the aspirations of employees."

The foundation for our human resources strategy is a commitment to "realize freedom and well-being for all employees," which includes Health and Productivity Management based on awareness of the fact that "employees and their family members are our company's most indispensable asset," and creating

## Group-wide strategy and targets for 2030



**Zeon's human resources strategy**  
—Seeking to put a smile on employees' faces, and meeting their aspirations

a working environment in which each individual employee can fulfill their potential.

By implementing this human resources strategy, Zeon's aim is to provide employees with more life choices and enable employees to grow together with the company.

## Declaration for Health and Productivity Management

(October 2021)

Our corporate philosophy is "Contributing to the preservation of the Earth and the prosperity of the human race". This mission will be accomplished by each and every employee of Zeon Group fulfilling his or her potential and playing an active and vibrant role in the company and in the society.

In order for us to continue contributing to a "Sustainable Earth" and a "Safe and Comfortable Lives for People", we will create a work environment where employees can work cheerfully and vigorously and lead healthy lives, both physically and mentally, with their families and colleagues.



## Work Together to Create "Stages" to Be Active On

What Zeon aims to achieve in terms of "stages" is to help realize freedom (in the sense of having more life choices) and well-being (meaning not only physical and mental health, but also feeling integrated in society and having a satisfying life) for all employees, so that we become a company where diverse individuals are able to demonstrate their strengths. We are working to build these "stages" through a two-pronged approach: intensifying DI&B, and strengthening engagement.

Zeon defines DI&B (Diversity & Inclusion & Belonging) as "making effective use of diversity, and being able to work with peace of mind and a feeling of trust that one is accepted." We have been fostering an organizational culture based around DI&B, so that each individual employee, with their different ideas and sensibilities, and their diverse backgrounds and

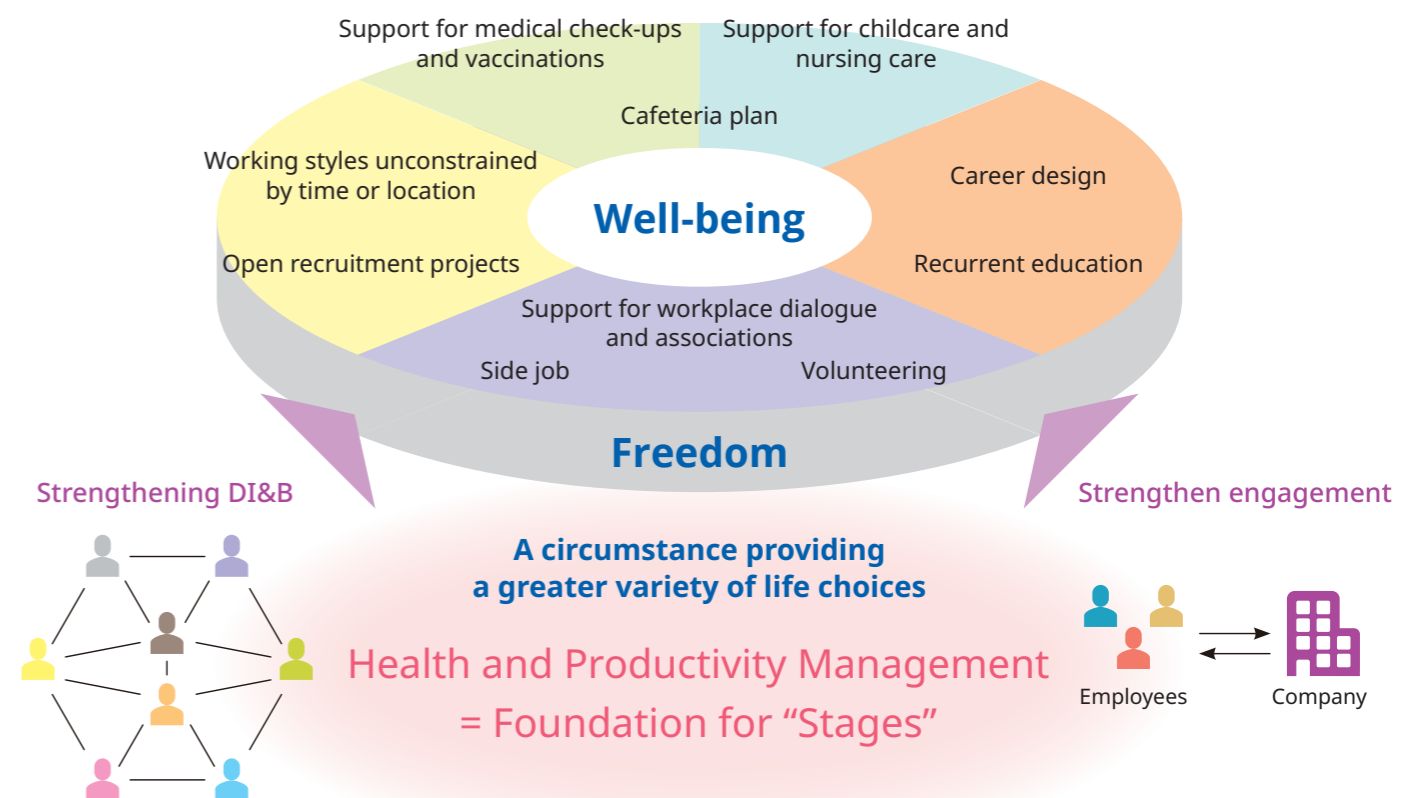
experience, can demonstrate their respective strengths.

We are also monitoring the results achieved with the "stages" and their current status, and utilizing employee engagement surveys as an indicator. The employee engagement surveys that we use are global surveys, so that we can perform benchmarking against the average values for high-performing global corporations and Japanese corporations. Survey implementation began in FY2021, and the latest survey results show an engagement rate of 48%. Whereas in the past the various issues affecting each organization could only be gauged subjectively, we are now able to clarify these issues using data. We aim to build even better "stages," with the target of raising the employee engagement rate to 75%, which is the average value for high-performing enterprises worldwide, by 2030.

## Using Our Human Resources Strategy to Support "Let's Try First," "Let's Connect," and "Let's Polish Up"

The figure below shows the Freedom and Well-being aspects of our human resources strategy in visual form. The state of Freedom means using a variety of initiatives and projects to enable employees to choose among a "greater variety of life choices." For example, if there are employees who would like to contribute to society through volunteering, we will put in place the systems and corporate culture required for these

employees to be able to volunteer, and will provide the resources needed to make it easier for them to take time off work. In this way, we will achieve employee Well-being, and we will be able to use our human resources strategy to support Zeon's commitment to "Let's Try First," "Let's Connect," and "Let's Polish Up."



## Specific Measures Included in the Medium-Term Business Plan

The core elements of Zeon Corporation's human resources strategy comprise three measures: ① Health and Productivity Management promotion and workstyle reform; ② Reformation of the personnel system and implementation of a clear framework for career development; ③ and "organizational and human resources development." In this section, we outline some of the specific initiatives adopted.



### ① Health and Productivity Management Promotion and Workstyle Reform

Health and Productivity Management is the foundation for creating "Stages" on which all employees can fulfill his or her strengths. In October 2021, Zeon declared "Health and Productivity Management" and formulated "Code of Conduct for Well-being". By promoting Health and Productivity Management, we aim that each and every employee of Zeon Group fulfilling his or her potential and playing an active and vibrant role in the company and in the society. We are implementing various health-related measures to reduce the risk of developing lifestyle diseases.

In order to respond to the need for more diverse workstyles, we have incorporated a remote working system, starting from April 2021. In addition, we are proceeding with the adoption of a system whereby employees can take their annual paid leave by the hour increments, and a system that uses teleworking to eliminate or reduce the need for employees to be posted away from their families. We are also reviewing the optimal number of personnel required for factory operation and encourage all employees to take annual leave,

#### Health and Productivity Management Strategy Map

##### Health and Productivity Management Goals

In order for us to continue contributing to a "Sustainable Earth" and "Safe and Comfortable Lives for People," each and every employee of Zeon Group fulfills his or her potential and playing an active and vibrant role in the company and in the society.

##### Health and Productivity Management Result

- Reduced risk of employees developing lifestyle diseases
- Reduction in presenteeism and absenteeism
- Enhanced engagement metrics
- Achievement of work-life balance

##### Health and Productivity Management Policies (Investments)

reduce overtime work, and promote production innovation and human resources development for the realization of smart factories.

### ② Reformation of the Personnel System and Implementation of a Clear Framework for Career Development

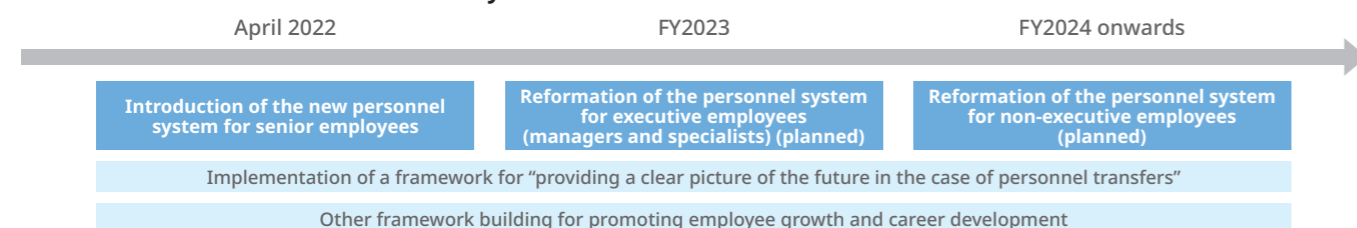
In April 2022, we adopted a new personnel system for employees who have already reached the normal retirement age of 60, so that older employees who have cultivated a high level of expertise at Zeon can continue to be active at the company until the age of 70. We are also currently working on reformation of the personnel system for executive employees in FY2023.

In our new personnel system, we have clarified roles and human resources requirements. By aiming to make these more transparent, we are enhancing the degree of integration between organizational goals and personal goals. Furthermore, making evaluations and compensation easier to understand and improving career path visualization will lead to improved employee engagement.

In this way, we can encourage personal growth and career development among non-managerial role employees, who in the past would have found it difficult to visualize their career path. We are creating "stages" whereby, besides contributing toward the realization of the company's management strategy, these employees can also hone their own capabilities.

In addition, we are proceeding with the putting in place of a system for "providing a clear picture of the future in the case of personnel transfers." More specifically, besides the use of digital technology to build the foundations needed for effective human resources management, we are also implementing measures to offer opportunities to discuss individual career plan, provide transferred personnel with mission sheets, and make effective use of our in-house job posting system.

#### Flow of Reformation of the Personnel System



### ③ Organization and Human Resources Development

The key to organization and human resources development is to link organizational goals and personal career goals. To realize this, besides making job roles transparent, it is also important for each employee to understand their own goals, and to undertake self-improvement, and for the employee's supervisors and the company to provide support for employee growth.

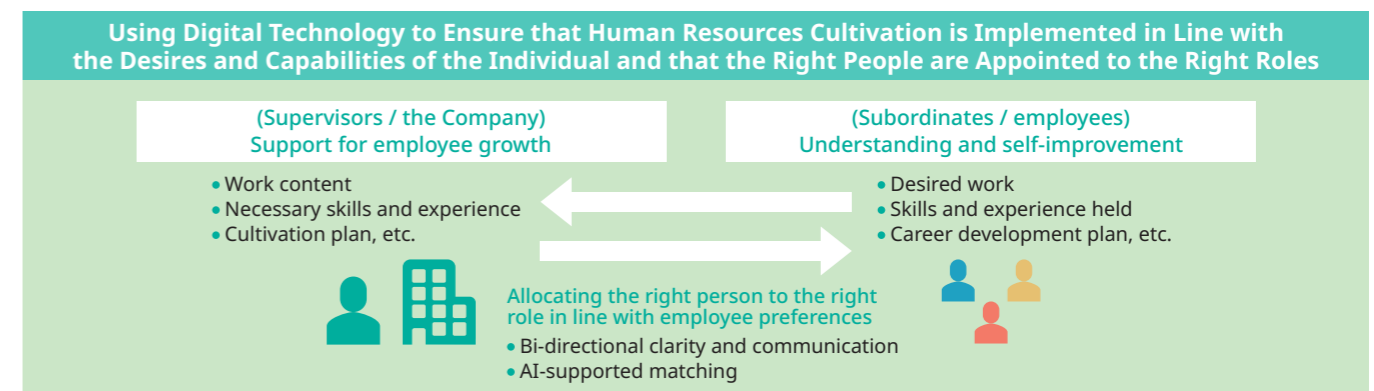
#### • Understanding one's own goals and exploring opportunities

Starting from FY2021, we have been implementing psychological assessments at the time of promotion reviews and when employees undertake training activities, so that employees can learn about their latent characteristics (i.e., internal motivation, such as subconscious preferences). We also encourage employees to take online seminars twice a year to undertake self-improvement. Those employees who successfully complete the training have 100% of the training free refunded to them.

#### • Support for employee growth from supervisors and the company

As a measure for enhancing the linkage between organizational goals and personal goals, besides having employees' supervisors implement one-on-one interviews on an ongoing basis, starting from FY2021 we have also been redesigning the evaluator training.

By making job roles more transparent, from FY2023 onwards we will have put in place a clear path for career development. In parallel with this, we are also proceeding with the adoption of a Learning Management System (LMS) that makes effective use of digital technology to ensure that human resources cultivation is implemented in line with the desires and capabilities of the individual, and that the right people are appointed to the right roles.



#### COMMENT

“Aiming to realize the “creation of ‘stages’ on which all employees can demonstrate their individual strengths” and the “linking of management strategy with human resources strategy””

Zeon's Medium-Term Business Plan, implementation of which began in FY2021, emphasizes the need to “work together to create “stages” to be active on,” and to this end, we are implementing measures that include Health and Productivity Management, workstyle reform, and the building of a corporate culture based around DI&B.

The next key issue that we face is the need to strengthen the linkage between management strategy and human resources strategy. Besides working actively to increase the number of employees allocated to growth sectors and to areas that will support management strategy implementation, we are also proceeding with the improvement of our human resources portfolio for the medium and long term. We are strengthening the diversity of our thinking and our capabilities as an organization by proactively recruiting mid-career hires with experience at other companies for many of our units, including the Research & Development Headquarters, the Elastomers and Chemicals Business Headquarters, the Specialty Business Headquarters, and the Digital Transformation Promotion Division. In addition, by taking

job roles as the starting point for human resources management, we are able to clarify the gap that exists between our strategy and our available human resources, and we can plan human resources retention, cultivation, recruitment and allocation from a medium- to long-term perspective.



Tomohiro Fukagata  
Division Manager - Human Resources



# Sustainability Management

## Formulation of Zeon's Sustainability Policy

On July 1, 2022, we adopted a new Sustainability Policy to replace our existing CSR Policy.

### Sustainability Policy

- We aspire to realize a “Sustainable Earth” and “Safe and Comfortable Life”.
- We will firmly maintain fairness and integrity in our activities to be a trustworthy company.
- Each of us will think and act proactively for a better future.

Based on our corporate philosophy of “contributing to the preservation of the Earth and the prosperity of the human race”, sustainability at Zeon means achieving sustainable growth together with society. To achieve this, we will provide products and services that are valuable for solving global and social issues, build trust with our stakeholders through fairness and integrity and have each one of us act proactively thinking how to create a better future for the society and ourselves.



### Explanation of the schematic diagram

Zeon's Sustainability Policy can be explained with reference to the schematic diagram shown above. Firstly, the inner arrows (① and ②) represent how, by helping to solve social issues and providing new value for society, Zeon itself can also obtain profits in return for providing this value. Arrows ③ and ④ show how continuing to implement a “virtuous circle” can lead to sustainable development for society and continued growth for Zeon. The image in the middle representing two people shaking hands denotes how, by realizing this kind of virtuous circle, the relationship of trust between society and Zeon can be further strengthened.

## Organizational Structure

With the aim of realizing carbon neutrality by 2050, in April 2022 the Carbon Neutral Endeavor Department which previously reported directly to the President was placed under the Corporate Sustainability Division. In July 2022, we established a new Carbon Neutral Division to strengthen organizational functions such as strategy formulation, and the Carbon Neutral Endeavor Department was placed under it. In addition, a new Carbon Neutral Laboratory has been established under the R&D Center, and we have put in place a system for promoting R&D that is oriented toward *monozukuri* manufacturing that helps to realize carbon neutrality and the circular economy.

Furthermore, in May 2022, we implemented an organizational reform, with the existing Raw Material Division and Logistics Division that had been under the Elastomers and Chemicals Business Headquarters being brought together to form the new Supply Chain Division, which is under the Administrative Headquarters. The Supply Chain Division undertakes the comprehensive collection and analysis of all supply chain related information, and implements measures intended to

reduce Scope 3 CO<sub>2</sub> emissions in the supply chain. It also puts in place the systems needed for the formulation, proposal, adjustment and implementation of supply chain related policies to help ensure the building of the foundations needed for business growth, and accelerating initiatives aimed at realizing carbon neutrality.

### Our System for Sustainability Management in the Future

Sustainability promotion will continue to be overseen by the CSR Conference, which is chaired by the President, and which reports to the Board of Directors as necessary. At the same time, in order to further strengthen sustainability efforts going forward, we will be examining ways to put in place a system for group-wide discussion and promotion of various matters relating to carbon neutrality, human rights and Health and Productivity Management, in order to build a governance system that is able to conduct sustainability promotion more effectively and more efficiently.

For a diagram showing our Corporate Governance System, see P.55.

## System Structure (Summarizing the changes in the sustainability management system; correct as of September 2022)



## Initiatives Relating to Respect for Human Rights

The Zeon Group positions initiatives relating to respect for human rights as one of the important foundations underpinning sustainability management. Recognizing the need to respect the human rights of everyone who is affected by our business activities, starting from FY2021 we have begun to implement full-scale initiatives in this area. First, we drew up a human rights risk map based on the entirety of our business, and identified human rights risks. We also held seminars for senior management and for related units, and worked to spread awareness of the importance of respect for human rights within the company. Then, while receiving advice from external experts, we have been proceeding with the discussion of concrete methods for implementing human rights due diligence in related units. More specifically, we have set the key issues to be addressed in three categories—Zeon Corpora-

tion, group companies, and the supply chain—have been proceeding with related measures, while also proactively disclosing the content of these measures in various reports.

### Future Issues

We have identified future issues that include the need to implement human rights due diligence at overseas group companies, the establishment of contact windows for remedial measures for the supply chain and the local community in the event that an infringement of human rights does actually occur, the formulation of a CSR-aware procurement guide, and the incorporation of human rights provisions into standard procurement contracts, and we will continue to proceed with measures aimed at furthering respect for human rights.

## FY2022 Initiatives

<b>Zeon Corporation</b>	Besides the 25 risk categories noted in “The Response to the UN Guiding Principles on Business and Human Rights (UNGPs) that is Expected from Business Enterprises Today,” published by the Human Rights Bureau, Ministry of Justice, we have added two additional risk types: human rights issues in relation to advertising, and unnamed human rights issues. We have decided on the responsible units and specified the issues to be addressed, and we are proceeding with efforts to reduce human rights risk in each category.
<b>Group companies</b>	In FY2022, we planned to make a start by setting the key issues to be addressed in relation to respect for human rights at each group company, starting with major group companies in Japan. At overseas group companies, full-scale measures will need to begin starting from the next fiscal year, and we are already proceeding with preparations for this.
<b>Supply chain</b>	Starting from FY2021, we selected a group of 262 suppliers that accounted for over 80% of total procurement, and which were deemed to have relatively high human rights risk, and conducted a CSR-aware procurement self-assessment questionnaire (SAQ) designed by the Global Compact Network Japan. In FY2022, we sent a feedback sheet to all the companies that had completed and returned the SAQ, and identified 16 companies, based on factors such as their questionnaire scores and whether or not the upstream segment of the supply chain was felt to have a high level of risk, with which we are engaging in dialog to enhance CSR-aware procurement. We are also proceeding with the process of securing letters from suppliers confirming that they are in agreement with Zeon's CSR-aware procurement policies, and we are expanding the scope of application of our policies further up the supply chain.

## Steps in the Implementation Process



TCFD-based Analysis and Reporting

Expressing support for the TCFD recommendations and CO<sub>2</sub> Emission Reduction Initiatives

In August 2020, Zeon Corporation expressed its support for the recommendations made by the Task Force on Climate-Related Financial Disclosures (TCFD).

Going forward, we will be aiming to strengthen our management fundamentals, as well as to help realize a sustainable society and enhance Zeon's corporate value, by undertaking analysis of the risks and opportunities that climate change presents for our businesses and reflecting this analysis in our management strategy.

These initiatives are reflected in the group-wide strategy of "Promote a transformation of *monozukuri* to realize a carbon neutrality and circular economy" that is outlined in our new Medium-term Business Plan. We have formulated a Carbon Neutrality Master Plan, with 2050 as the target year, and we are disclosing the measures that will be adopted to realize this plan and the progress made in reducing CO<sub>2</sub> emissions.

2020	Support for TCFD announced <b>Implementation, on a trial basis, of analysis of the impact on Zeon's rubber business of the 2°C and 4°C climate change scenarios</b>
2021	Implementation of Risk Severity Evaluation application trials for businesses other than the rubber business. * Implementing units: Business divisions other than the rubber business, as well as manufacturing divisions, indirect departments and group companies Reflection of certain elements in the new Medium-Term Business Plan
2022	Formulation of a Carbon Neutrality Master Plan, and presentation of metrics and targets Establishment of a system for certifying products that contribute to the SDGs Promotion of activities aimed at securing SBT certification
2023	Disclosure of measures relating to the metrics and targets for the Carbon Neutrality Master Plan, and of the results achieved in terms of reducing CO <sub>2</sub> emissions through products that contribute to the SDGs Promotion of CO <sub>2</sub> emissions reduction based on SBTs

Disclosure of Zeon's Response to TCFD Requirements

Governance

Zeon views climate change as a key issue, and progress management and reporting in regard to related targets is undertaken by the Environmental & Safety Affairs Committee.

A Carbon Neutral Endeavor Department was established in April 2021, reporting directly to the President, and has been promoting tasks such as the formulation of a basic strategy and concrete plans for achieving the goal of making the Zeon Group carbon neutral by 2050.

In April 2022, looking ahead to FY2022 which is the second year of implementation of the Medium-Term Business Plan, the Carbon Neutral Endeavor Department was placed under the supervision of the Corporate Sustainability Headquarters. The Carbon Neutral Endeavor Department is now liaising with other units under the Corporate Sustainability Headquarters to plan and promote concrete activities aimed at making the company as a whole carbon neutral.

Strategy Overview

Firstly, in order to clarify the group-wide climate-related risks and opportunities, climate change scenario analysis was performed with respect to units other than the rubber business (including both business divisions and indirect departments), based on the climate change scenario analysis that was performed for the rubber business in FY2020. Particular emphasis was placed on identifying risks and opportunities that were not seen with the rubber business.

As with the rubber business, the following steps were implemented.

1. Assess materiality of climate-related risks
2. Identify and define range of scenarios
3. Evaluate business impacts
4. Identify potential responses

1 Assess materiality of climate-related risks (Identification of risks and opportunities)

After internal and external discussion regarding newly recognized climate-related risks and opportunities that were identified

using group-wide scenario analysis, the materiality of these risks and opportunities was assessed (see the table "Zeon Group's Climate-related Risks and Opportunities").

Besides transition risks such as CO<sub>2</sub> emissions costs (including carbon taxes, etc.), changes in customer behavior (such as increased sales of electric vehicles, and rising raw materials procurement costs and utility costs, we also identified business opportunities related to strengthening competitiveness through technological advances. These include the development of products made from biomass raw materials that do not use petrochemicals, and low-carbon products produced using chemical recycling.

In addition to the risk of flood damage to Zeon business sites and to the supply chain due to rising sea levels resulting from climate change, and the risk of damage to Zeon business sites and to the supply chain due to increasingly severe abnormal weather conditions, we also identified risks relating to increased operating costs resulting from rising average temperatures as physical risks. At the same time, we also identified business opportunities relating to the provision of products and services that will see increased sales opportunities associated with rising temperatures and the serious disasters that result from these.

2 Identify and define range of scenarios

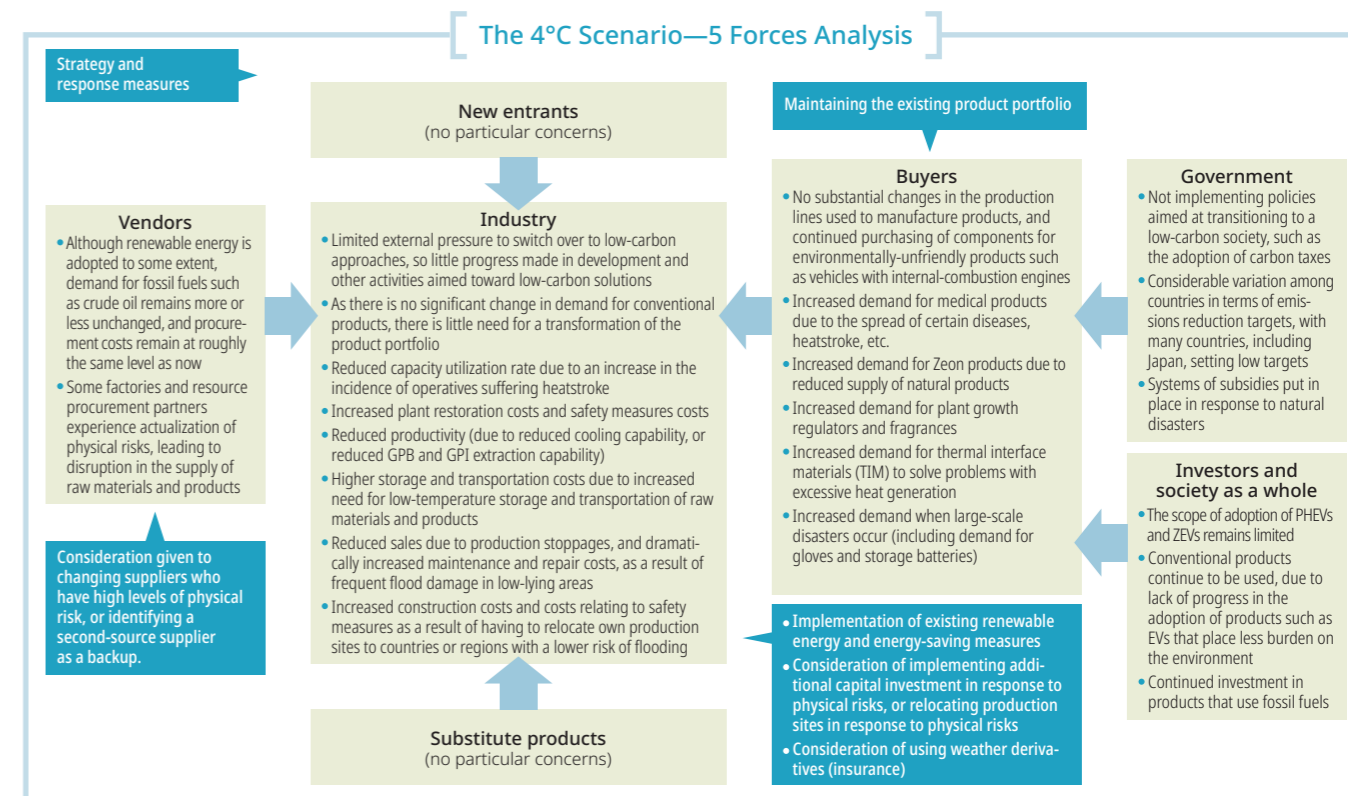
On the basis of the transition risks and physical risks that were identified on a group-wide basis, we examined the global picture for the 4°C and 2°C scenarios, respectively.

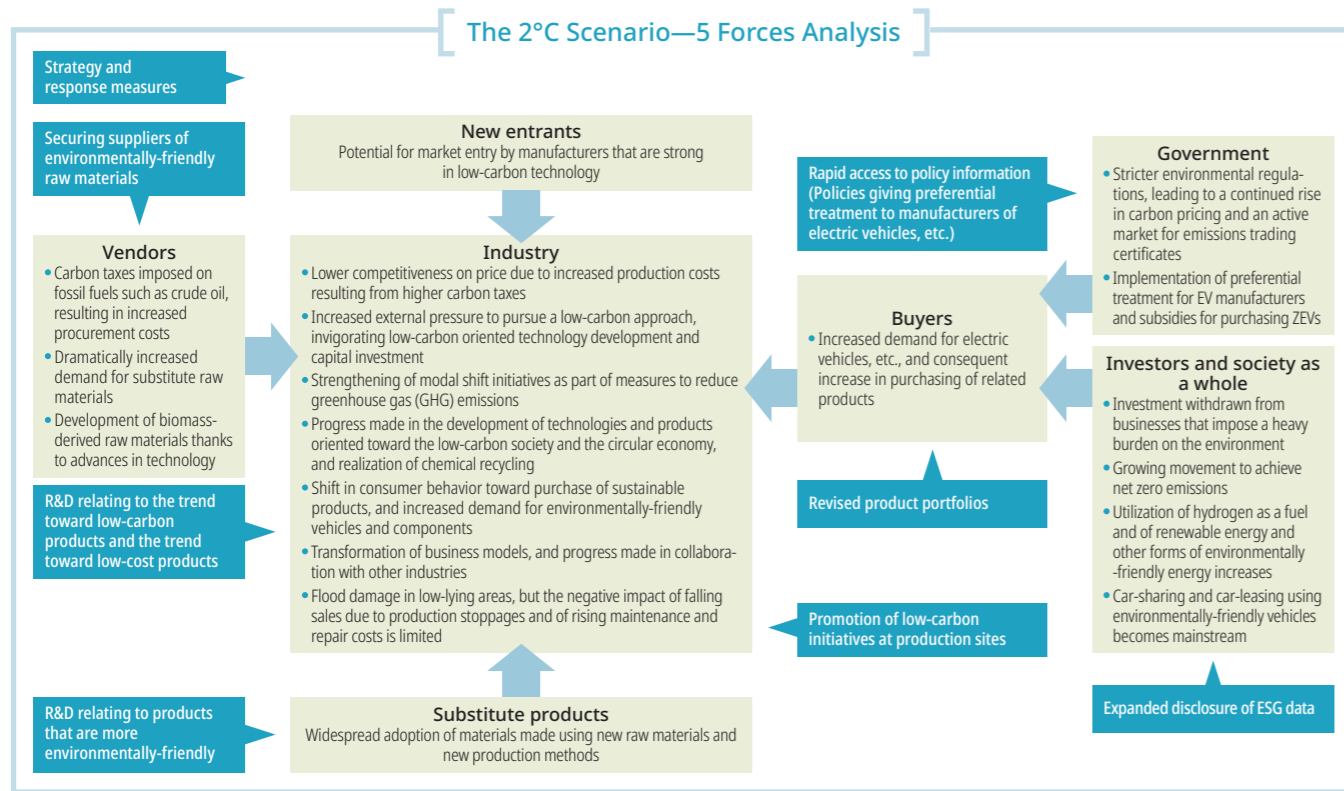
- Anticipated global picture for the 4°C scenario (using 5 Forces analysis)  
A trend toward adopting a "wait and see" attitude to the need to achieve a low-carbon or post-carbon society leads to high physical risk, in terms of flooding, etc.
- Anticipated global picture for the 2°C scenario (using 5 Forces analysis)  
Aggressive promotion of decarbonization, adoption of carbon taxes and an accelerated shift toward renewable energy and the use of electric vehicles lead to an increased need for the reduction of emissions from businesses and for the implementation of product portfolio adjustments.

Zeon Group's Climate-related Risks and Opportunities

\* Yellow denotes climate-related risks or opportunities that were identified in the FY2021 project.

Type of risk	Evaluation item		Observations: Risks	Observations: Opportunities	Importance
	Category	Sub-category			
Transition	Policy/Legal	Carbon pricing and carbon tax	• Adoption of carbon taxes (resulting in increased operating costs)	• Increased opportunities for sale of products that contribute toward reducing CO <sub>2</sub> emissions (resulting in increased sales)	Major
		Individual countries' carbon emissions targets/policies	• Increased emissions controls compliance costs (resulting in increased operating costs)	As above	Major
	Industry/Market	Key products / Increase or decrease in product prices Changes in raw materials procurement costs	• Rising raw material prices (resulting in increased operating costs)	• Falling raw material prices (resulting in reduced operating costs)	Major
		Changes in energy demand Changes in utility costs (fuel and electric power)	• Rising energy prices (resulting in increased operating costs)	• Increased demand for energy (resulting in increased sales)	Major
		Evolution of next-generation technologies	—	Enhanced competitiveness due to technological advances (resulting in increased sales) • Increased competitiveness in the event of successful future development of efficient manufacturing technologies or manufacturing methods that do not use fossil fuels • Securing an advantageous position in the market through the development of biomass-based raw materials, etc. • Development of technologies and products (such as chemical recycling) oriented toward the low-carbon society and the circular economy	Moderate to Major
Reputation	Changes in customer behavior	Worsening reputation of the company's products and of the company itself (resulting in reduced sales)	• Increased opportunities for sale of products that contribute toward reducing CO <sub>2</sub> emissions (resulting in increased sales)	Major	
Physical	Chronic	Rising sea levels	Negative impacts on operations from rising sea levels (reduced sales due to production stoppages and delays and/or increased maintenance and repair costs)	—	Major
		Rising average temperatures	Increased burden of responding to rising temperatures (resulting in increased operating costs) • Reduced capacity utilization rate due to an increase in the incidence of operatives suffering heatstroke • Increased plant restoration costs and safety measures costs • Reduced productivity (due to reduced cooling capability, or reduced GPB and GPI extraction capability) • Higher storage and transportation costs due to increased need for low-temperature storage and transportation of raw materials and products (affecting business divisions)	Increased sales accompanying rising temperatures • Increased demand for medical products due to the spread of certain diseases, heatstroke, etc. • Increased demand for Zeon products due to reduced supply of natural products • Increased demand for plant growth regulators and fragrances • Increased demand for thermal interface materials (TIM) to solve problems with excessive heat generation	Moderate to Major
	Acute	Increasing seriousness of abnormal weather conditions (trend toward larger typhoons and hurricanes, etc.)	Disruption caused to operations by severe natural disasters (resulting in reduced sales and increased operating costs)	Increased sales opportunities resulting from large-scale natural disasters • Increased demand for gloves resulting from a worsening hygiene environment • Emergence of concerns regarding the existing electric power network as a result of disasters Diversification of the electric power grid, increased demand for storage batteries, and increased sales of battery materials, due to concerns regarding industrial operations and lifestyles	Major





**3 Evaluate business impacts (impact on financial planning)**

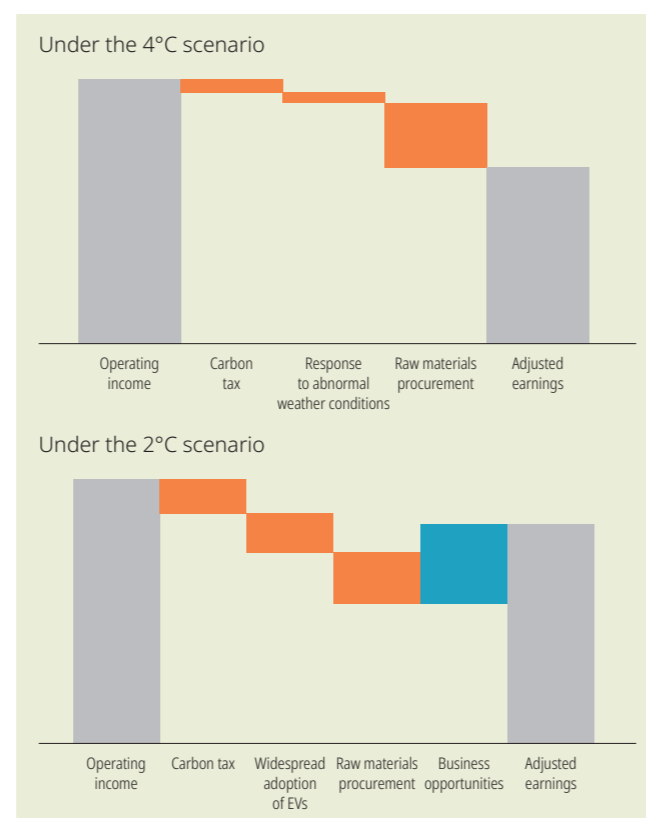
The anticipated financial impact on Zeon's business was analyzed for the 4°C scenario and the 2°C scenarios. It was found that, for the 4°C scenario, earnings would fall due to the impact of physical risks and because of rising procurement costs, while for the 2°C scenario, earnings would fall because of the adoption of carbon taxes and the widespread adoption of EVs, but there would also be a positive contribution to earnings from new business opportunities.

**4 Future direction and response strategy**

Going forward, based on the results of this scenario analysis, we will be implementing response strategies in coordination with the group-wide strategy outlined in the Medium-Term Business Plan. Regarding the decarbonization strategy, we will be undertaking group-wide examination of policies aimed at making Zeon carbon neutral. With regard to the resource strategy, we will be promoting the circular economy and proceeding with development of products that make use of biomass as raw material. We will also be aiming to expand our businesses by undertaking product development and product portfolio management based on assumptions regarding changes in customers' behavior.

In particular, we will be integrating these efforts into the Carbon Neutrality Master Plan that is being formulated to realize group-wide strategy number one: "Promote a transformation of *monozukuri* to realize carbon neutrality and the circular economy."

**Group-wide impact assessment**



**Risk management**

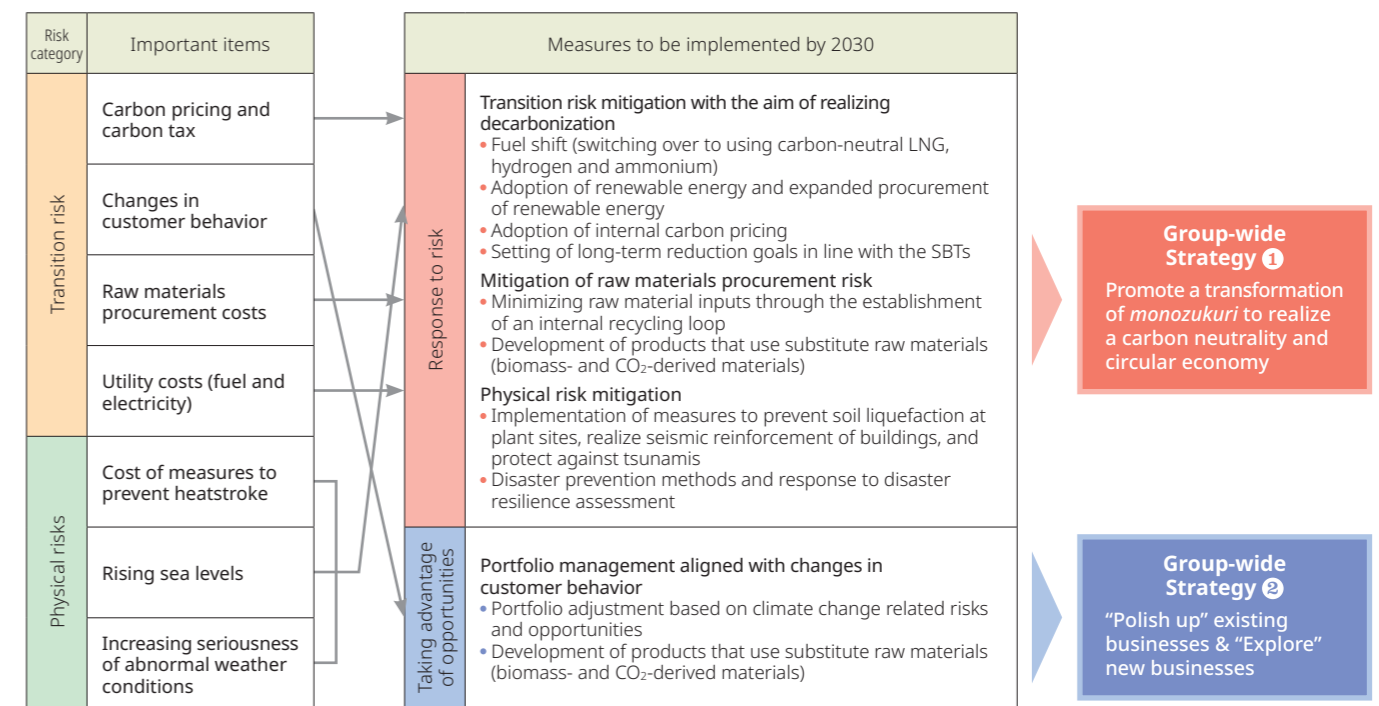
With regard to climate-related risk, we have established a Risk Management office, and climate-related risk is recognized in the group-wide risk management table. As regards the response to risk, the Risk Management office performs risk management, including risk assessment and clarification of appropriate response strategies.

**Metrics and targets**

- On a group-wide basis, in order to achieve the goal of becoming carbon neutral by 2050, we are aiming to reduce CO<sub>2</sub> emissions by 50%\* by 2030 compared to FY2019.

\* This denotes a reduction in the annual Scope 1+2 CO<sub>2</sub> emissions of Zeon Corporation (unconsolidated) of at least 50.0%, compared to FY2019, by FY2030.

**Strategies to be implemented by the Zeon Group as a whole in response to climate change related risks and opportunities**



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		c) How processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	P.52
Strategy		Metrics and targets	
a) Climate-related risks and opportunities the organization has identified over the short, medium, and long term	P.49	a) Metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	P.52
b) Impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	P.49	b) Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	P.52
c) Resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	P.49	c) Targets used by the organization to manage climate-related risks and opportunities and performance against targets	P.52

# Directors and Officers

More detailed information can be found in the Corporate Governance Report (Japanese version only).  
<https://www.zeon.co.jp/news/assets/pdf/220705.pdf>

A total of nine directors, including three outside directors, have been appointed since the general meeting of shareholders at the end of June 2022.

## Directors



**President and CEO**  
**Kimiaki Tanaka**  
 Profile  
 April 1979 Joined Zeon  
 June 2005 Zeon Director  
 June 2007 Zeon Director and Corporate Officer  
 June 2011 Zeon Director and Senior Corporate Officer  
 June 2012 Zeon Director and Executive Corporate Officer  
 June 2013 Zeon President (current)



**Director & Senior Corporate Officer**  
**Kazuyoshi Matsuura**  
 Elastomers and Chemicals Business  
 Director – TOHPE CORPORATION  
 Profile  
 April 1993 Joined Zeon  
 July 2014 Zeon Synthetic Rubber Division Manager  
 – Rubber Sales Department II  
 June 2017 Zeon Corporate Officer  
 June 2019 Zeon Director and Corporate Officer (current)



**Director & Senior Corporate Officer**  
**Tetsuya Toyoshima**  
 Research & Development Division Manager  
 Director – Research & Development Center  
 Profile  
 April 1989 Joined Zeon  
 January 2013 Zeon Division Manager  
 – Specialty Plastics & Components Business  
 June 2015 Zeon Corporate Officer  
 June 2020 Zeon Senior Corporate Officer (current)



**Director & Senior Corporate Officer**  
**Yoshiyuki Sone**  
 Administration  
 Profile  
 April 1988 Joined Zeon  
 July 2017 Zeon Division Manager  
 – Specialty Components  
 June 2018 Zeon Corporate Officer  
 June 2020 Zeon Senior Corporate Officer (current)



**Director & Corporate Officer**  
**Erisa Watanabe**  
 Corporate Sustainability Division Manager – Corporate  
 Sustainability General Manager – CSR  
 Profile  
 April 1987 Joined Zeon  
 April 2013 Zeon Production Center Manager  
 – Materials Procurement  
 June 2018 Zeon Corporate Officer (current)



**Director & Corporate Officer**  
**Yuichiro Konishi**  
 Specialty Business Division Manager – Specialty Plastics  
 President – Zeon Opto Bio Lab Co., Ltd.  
 Profile  
 April 1991 Joined Zeon  
 July 2011 Joined Solvay Specialty Polymers  
 July 2012 Joined Zeon  
 July 2013 Zeon Division Manager – Electronics  
 Materials Division I  
 July 2015 Zeon Division Manager – Electronics  
 Materials Division;  
 Manager – Taiwan Representative Office,  
 Electronics Materials Division  
 June 2020 Zeon Corporate Officer (current)

## Outside Directors



**Takao Kitabata**  
 President – Kaishi Professional University



**Tadanobu Nagumo**  
 Senior Advisor – The Yokohama Rubber Co., Ltd.



**Fumiaki Ikeno**  
 Board Member, Co-Founder, Chief Medical Officer,  
 GP – MedVenture Partners, Inc.

## Audit & Supervisory Board Members



**Takeo Furuya**



**Sachio Hayashi**



**Akio Kohri**  
 Adviser – ADEKA CORPORATION



**Nobutake Nishijima**



**Hiroki Kimura**  
 President – Asahi Mutual Life  
 Insurance Company

## Audit & Supervisory Board Members (External)

## Corporate Officers



**Tomoyuki Kose**  
 Managing Director  
 – Zeon Kasei Co., Ltd.



**Makoto Watanabe**  
 Plant Manager  
 – Mizushima Plant



**Tsutomu Eguchi**  
 Division Manager  
 – Corporate Administration;  
 President  
 – Zeon F&B Corporation



**Satoshi Tominaga**  
 Division Manager  
 – C5 Chemicals



**Yoshinobu Oi**  
 President  
 – Tokyo Zairyo Co., Ltd.



**Hiroshi Yamamoto**  
 Division Manager  
 – Production Center



**Kazuo Nakajima**  
 Division Manager  
 – Legal & Compliance



**Masahiro Nakamura**  
 Division Manager  
 – Energy Materials



**Haruhiko Takahashi**  
 Assistant Division Manager  
 – Corporate Planning



**Masao Akasaka**  
 President  
 – Zeon Chemicals Singapore  
 Pte. Ltd.



**Noboru Watanabe**  
 Plant Manager – Kawasaki Plant

# Governance

Corporate Governance Report (Japanese version only)  
<https://www.zeon.co.jp/news/assets/pdf/220705.pdf>

Basic Policy on Corporate Governance (Japanese version only)  
<https://www.zeon.co.jp/csr/management/pdf/200281514.pdf>

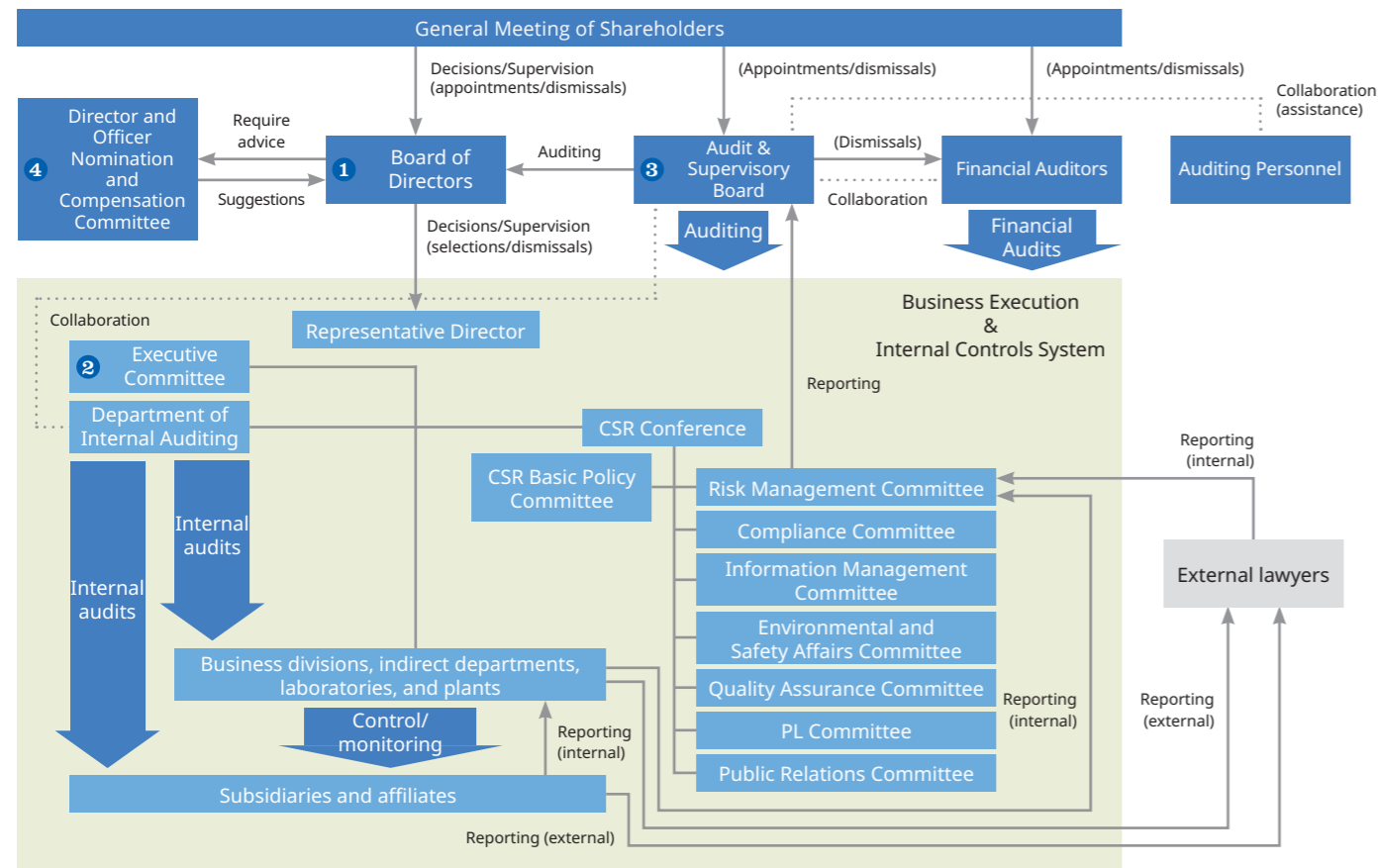
## Corporate Governance

### Basic Approach to Corporate Governance

Zeon aims to increase profits and enhance corporate value on an ongoing basis while respecting and balancing the various interests of its shareholders and other diverse stakeholders. To this end, we are continuing efforts to build a system that enables efficient and sound corporate management through corporate governance.

Maintaining a system of internal control allows us to clarify the functions and roles of each body and company organization and to carry out rapid decision-making and execution. We are also improving corporate transparency through appropriate monitoring and disclosure of business activities and their effects.

### Corporate Governance System (as of September 2022)



#### 1 Board of Directors

The Board of Directors meets, in principle, every month with Audit & Supervisory Board members in attendance to ensure compliance with applicable laws and the Articles of Incorporation in the execution of business. In addition to its statutory duties, the role of the Board of Directors is to make important decisions about basic management policy, strategy, and other aspects of business execution. As of July 2022, the Board of Directors consists of nine directors, including three outside directors.

#### 2 Executive Committee

The Executive Committee, in accordance with the Executive Committee Rules, comprises the President and executive officers ranked senior corporate officer or above and meets twice a month in principle to examine and make decisions on important business matters after due deliberation involving consultation with attending full-time Audit & Supervisory Board members. Important business matters stipulated in the Board of Director Rules are examined and decided by the Board of Directors.

#### 3 Audit & Supervisory Board

The Audit & Supervisory Board comprises five members, including three external members. The Board reports on, discusses, and adopts resolutions on important business matters. In accordance with the auditing guidelines established by the Audit & Supervisory Board, each member audits directors' execution of their duties through various means, such as attending Board of Directors meetings and monitoring business operations, including subsidiaries' operations.

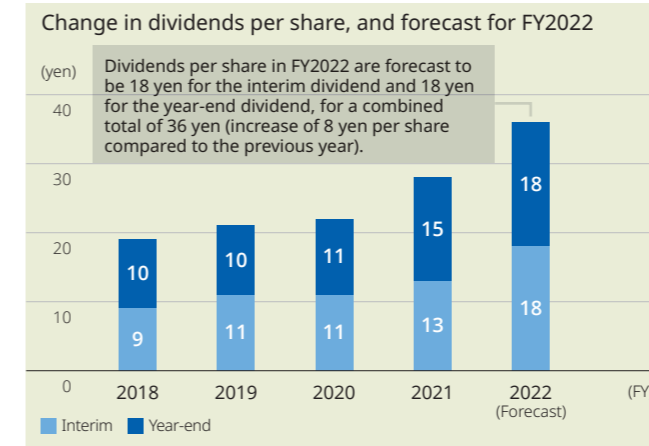
#### 4 Director and Officer Nomination and Compensation Committee

The Director and Officer Nomination and Compensation Committee is positioned as an advisory organ to the Board of Directors for the purpose of strengthening the objectivity and transparency of the Board of Directors functions related to nominating directors and officers and deciding their compensation. The committee is composed of four members, of which three are independent outside directors.

### Policy on the distribution of profit

Our basic policy is to pay out steady dividends of excess earnings to shareholders.

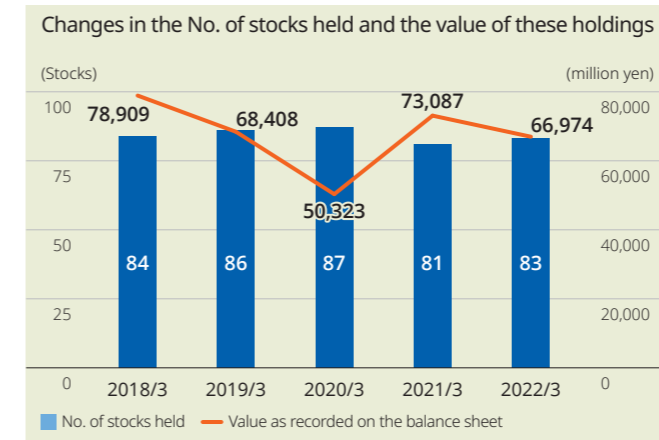
In principle, Zeon Corporation distributes excess earnings twice annually, through interim and year-end dividends. The General Meeting of Shareholders decides the year-end dividend amount, and the Board of Directors decides the interim dividend amount. Retained earnings are leveraged for proactive capital investments, development of innovative technologies, and production innovations.



### Strategic Shareholdings

When deciding whether to take strategic shareholdings in other companies, we undertake careful examination to determine whether such shareholdings will help to strengthen our relationship with business partners, local community and other stakeholders, and whether they will contribute toward the enhancement of our company's corporate value over the medium- to long-term. In cases where, after such examination, we do acquire shares in other companies, every year we conduct close scrutiny for each individual stock to examine the appropriateness of the purpose for which the stock is being held, and whether the benefits and risk of holding the stock are commensurate with the capital cost, etc. Verification was performed at the Board meeting held on October 29, 2021, and it was determined that all of the stocks that we held at that time as strategic shareholdings were appropriate. Going forward, if, as a result of verification, it is deemed that it is no longer advisable for the company to hold shares in a particular company, then we will consider the possibility of reducing our holding of that stock.

When making decisions regarding the exercise of voting rights in companies in which we have strategic shareholdings, we make such decisions based on a perspective that emphasizes enhancing the corporate value of the investee company over the medium- to long-term.



### Appointment and dismissal of directors and officers

Nominations of candidates for directors and auditors and appointments of corporate officers are made based on the requirements provided in the Basic Policy on Corporate Governance, with advice given by the Director and Officer Nomination and Compensation Committee, a recommendation by the Representative Director, and a decision by the Board of Directors.

In the case of committing a serious violation of the law, or an act violating company policy either intentionally or through gross negligence, or other reason that is cause for dismissal of the director or officer as provided in internal company regulations, the Board of Directors deliberates the case and dismisses the director or officer concerned based on the Companies Act and other legislation.

### Evaluating the Effectiveness of the Board of Directors

Questionnaires are conducted for directors including outside directors and auditors about the operations of the Board of Directors. Questionnaire responses are analyzed and evaluated by a third-party outside lawyer entrusted to perform the task, who has provided the opinion that our Board of Directors operates with a high degree of overall effectiveness.

We currently position increasing the diversity of directors as an issue to be addressed. In June 2022, a female director and corporate officer was appointed from within the company, taking the percentage of directors who are female up to 11%. In our Medium-Term Business Plan, we have set ourselves the target of increasing the share of directors who are either female or foreign nationals to at least 30% by 2030. Going forward, we will continue working to achieve even higher levels of diversity.

### Appointment of Women and Foreign Nationals to Management Positions

Over the past few years, we have been working actively to promote women's empowerment. There has been an increase in the number of female employees who are either holding or capable of holding the positions of department manager or section manager, and we are striving to expand the opportunities for female employees to fulfil their potential. As of March 31, 2022, 12.7% of our company's employees were female, and 5.3% of managers were female.

Besides aiming to ensure that the share of recent graduates recruited by the company each year who are women is maintained at least 30%, and if possible higher than this, we are also taking ongoing steps to build an environment conducive to the assignment, appointment and advancement of female employees, including areas such as recruitment, cultivation, and overseas assignments, and to cultivate female employees' ability to manage their own career development. We are aiming to increase the share of employees who are female to around 20%, and increase the share of managers who are female to around 20%, by 2030, and we will be working to increase the number of female employees who can play a central role in managerial decision-making in the future.

We are also proceeding, on an ongoing basis, with the recruitment of foreign nationals of many different nationalities, including recruitment from outside Japan. As of March 31, 2022, there were a total of 27 foreign nationals working in the company, of which 3 held managerial positions.

Our Medium-Term Business Plan also includes a policy of increasing the number of foreign employees who can play a central role in managerial decision-making in the future. We are hoping to achieve an increase in the number of foreign nationals holding managerial positions by 2030 compared to the total for March 31, 2021 (which was three).

**Director and officer compensation**

We use a performance-based compensation system as one type of healthy incentive to achieve sustained growth.

Individual compensation is decided by the Representative Director after receiving the advice of the Director and Officer Nomination and Compensation Committee.

**Compensation system**

Directors and officers	Compensation structure
Internal Directors	<ul style="list-style-type: none"> <li>Fixed-amount cash compensation</li> <li>Performance-based cash compensation</li> <li>Restricted stock compensation system</li> </ul>
Corporate Officers	<ul style="list-style-type: none"> <li>Fixed-amount cash compensation</li> <li>Performance-based cash compensation</li> </ul>
Outside Directors	<ul style="list-style-type: none"> <li>Fixed-amount cash compensation</li> </ul>

**Amount of compensation in FY2021**

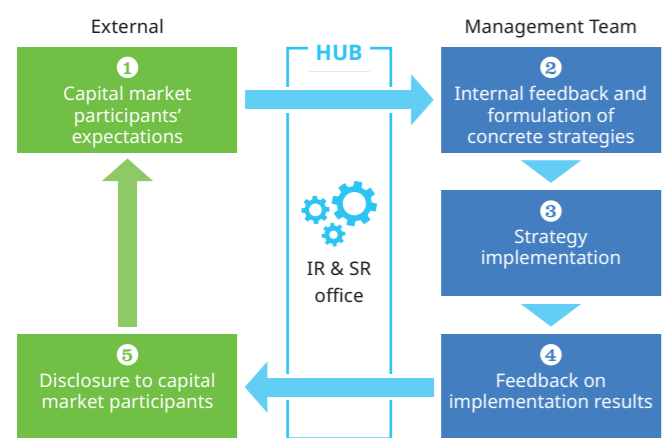
Directors and officers	Total amount of compensation
Internal Directors (4 directors)	179 million yen (breakdown: cash compensation (fixed amount): 39 million yen, cash compensation (performance-based): 115 million yen, transfer-restricted stock-based compensation: 25 million yen)
Internal Audit & Supervisory Board Members (3 members)	54 million yen
External Officers (7 officers)	60 million yen

**Constructive dialogue with shareholders and investors**

With the aim of further strengthening communication with shareholders and investors, in 2021 we established the IR & SR office as a dedicated unit to handle such communication.

The IR & SR office is not subordinate to any other division, and reports directly to the head of the company's Administrative Headquarters. In this way, it is possible for the voice of the capital markets to be transmitted directly to senior management, and be reflected rapidly in managerial measures. This system also enables the timely, accurate and unbiased transmission of information to market participants in relation to the results of discussion regarding matters such as managerial measures.

**Functions of the IR & SR office**



We are also continuing to expand the range of methods used for dialogue in addition to individual interviews, including the holding of quarterly briefings for investors, expanding the information disclosed on the company's website, participating in corporate presentations for individual investors, etc.

At the annual general meeting of shareholders held in June 2022, besides providing a live video feed for those shareholders who were unable to be present in person, we also provided answers to questions that had been raised prior to the meeting.



Live-streaming of the shareholders meeting

**Shareholders' and investors' views and future issues**

We receive a wide range of opinions and requests through communication with shareholders and investors.

The main requests relating to governance are as outlined below. We recognize that these are issues that we will need to consider going forward.

- Enhancing asset efficiency, with a focus on strategic shareholdings
- Reconsidering the necessity for anti-takeover measures
- Further enhancing the independence of the Director and Officer Nomination and Compensation Committee and the transparency of its operations
- Considering the adoption of quantitative targets for returning profits to shareholders
- Enhancing the diversity of directors and officers

**Skills and diversity of directors and officers**

The Board of Director comprises a diverse range of directors with different backgrounds of knowledge, experience, expertise, and so on, and the number of directors is limited to 15 in accordance with the Articles of Incorporation from the perspective of maintaining an appropriate size to ensure thorough deliberations and prompt and reasonable decision-making as an organizational body. In

addition, in order to appropriately reflect in the company's management policies, the opinions of persons with extensive experience and insight, such as outside corporate managers and persons with administrative experience, and to ensure the effectiveness of independent and objective management supervision by the Board of Directors, Zeon appoints several independent outside

directors who are not involved in the execution of business.

Below is a list (a skills matrix) of the skills that members of the Board of Directors should have in light of the Group's management strategies and the combination of skills (up to three for each director) that each director possesses and that the company particularly expects that director to demonstrate.

	Global management	Finance and accounting	Compliance and risk management	Sustainability and ESG	New business creation	Business overhaul	Sales and marketing	Research and development	Production and SCM
Kimiaki Tanaka President & CEO	●			●				●	
Kazuyoshi Matsuura Director & Senior Corporate Officer	●					●	●		
Tetsuya Toyoshima Director & Senior Corporate Officer					●	●		●	
Yoshiyuki Sone Director & Senior Corporate Officer	●	●			●				
Erisa Watanabe Director & Corporate Officer			●	●					●
Yuichiro Konishi Director & Corporate Officer					●		●	●	
Takao Kitabata Outside Director	●		●	●					
Tadanobu Nagumo Outside Director	●					●			●
Fumiaki Ikeno Outside Director	●				●			●	

**Risk management**

**Risk management system**

The Risk Management Committee promotes Zeon's risk management. Activities to prevent legal violations and ensure legal compliance are conducted under the Compliance Committee. The Information Management Committee promotes the appropriate management of information from when it is received to when it is destroyed.

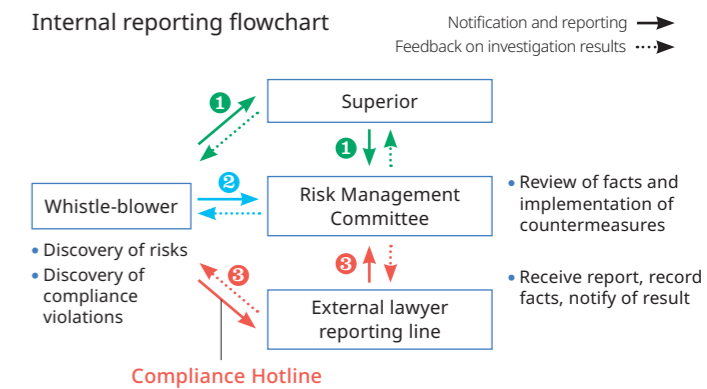
**Risk management and compliance system**



**Internal reporting system**

Zeon has put in place an internal reporting system, in order to collect information about latent risks as early as possible so that appropriate action can be taken. The channels for reporting risk-related information are not limited to internal channels such as reporting to one's supervisor or directly to the Risk Management Committee. We have also established a Compliance Hotline with an external lawyer as a contact window (see items ① to ③ in the figure on the right). The Risk Management Committee investigates the facts of reports that are made and responds as appropriate, such as by instructing the internal organization to implement countermeasures based on the results of the investigation.

Number of internal reports in FY2021: 4



**BCP formulation and implementation of related training**

Recognizing the need on business continuity to mitigate the impact of damage from disasters such as earthquakes and severe storm and flood damage, we have formulated a Business Continuity Plan (BCP), and we implement training in order to enhance its effectiveness. Group-wide training was implemented once in FY2021. On the assumption that teleworking for staff at the company's head office had become the new normal, Crisis Management Team (CMT) training was conducted twice, and factory training was conducted twice.

In addition, individual business divisions and factories have formulated their own BCPs, and have put in place systems to facilitate a rapid response in the event of an emergency. We are also making necessary adjustments through Business Continuity Management (BCM) on an ongoing basis, and implementing unique training.

# ZEON

## Online disclosure by Zeon Corporation

**Website** <https://www.zeon.co.jp/en/>

**Company Information**  
<https://www.zeon.co.jp/en/company/>  
Corporate profile, Group information, etc.

**Investor Relations**  
<https://www.zeon.co.jp/en/ir/>  
Financial data, factbooks, etc.

**CSR** <https://www.zeon.co.jp/en/csr/>  
Corporate Report, CSR Report, Site Reports, etc.

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